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# THE AMERICAN THERAPIST.



A Monthly Record of Modern Therapeutics,  
WITH PRACTICAL SUGGESTIONS,  
RELATING TO THE CLINICAL APPLICATION OF DRUGS.

DR. JACOB SOBEL, EDITOR.

Established 1892.

Entered at the New York Post Office as Second-class Mail Matter.

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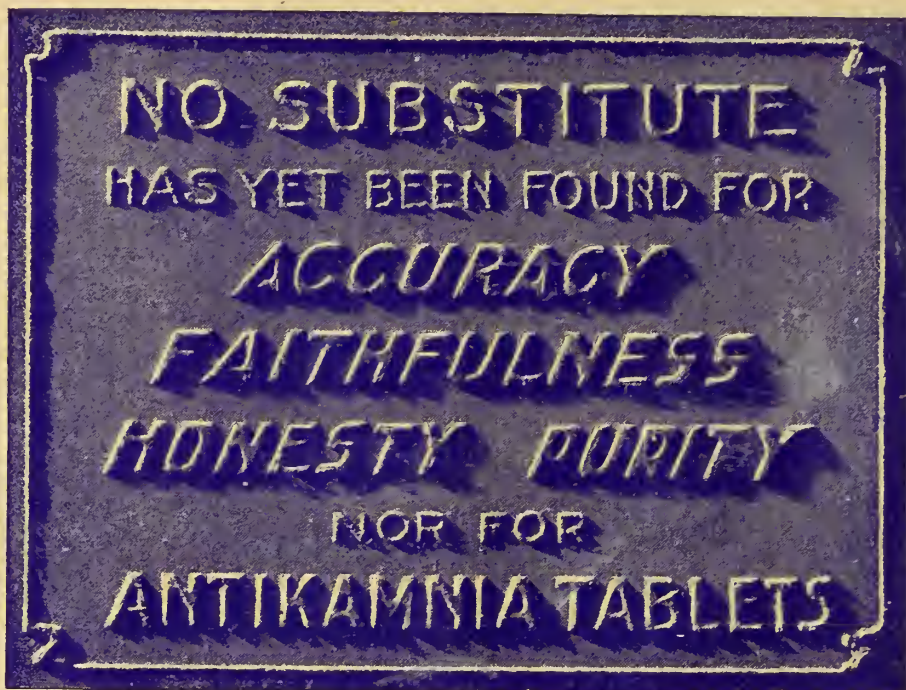
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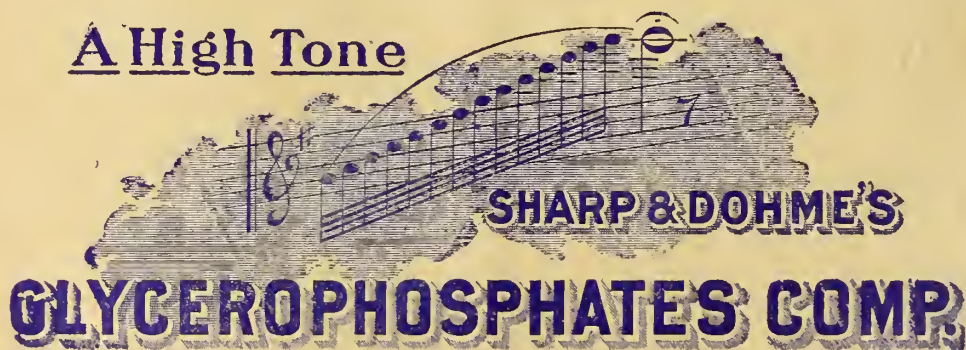
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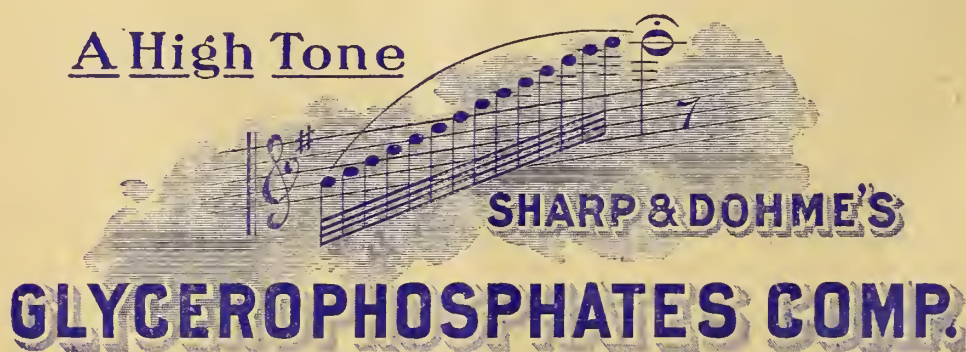


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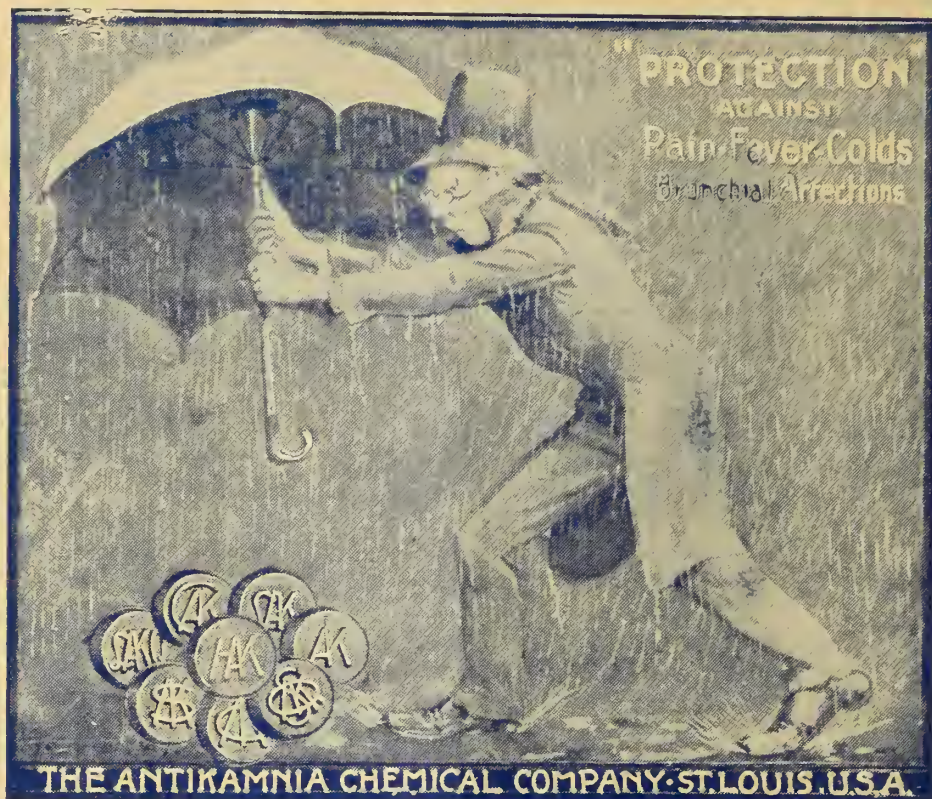
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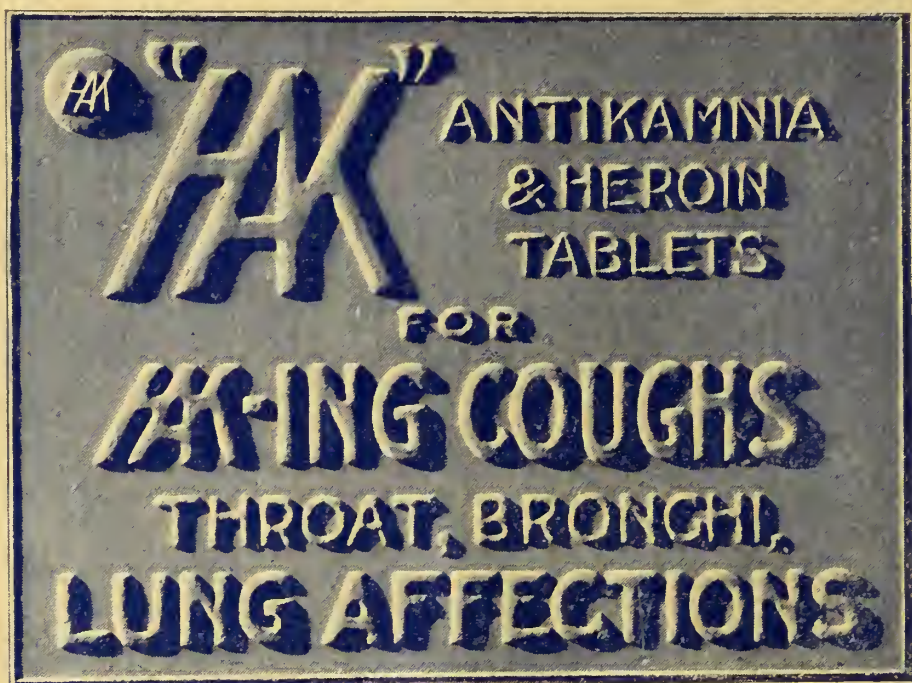

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No. 1.

## Original Articles.

### THE EMPLOYMENT OF MINERAL WATERS IN GASTRO-INTESTINAL DISEASES.\*

By SEYMOUR BASCH, M.D., New York City.

Mineral waters have been best defined as stronger or weaker solutions of salts and gases in water of higher or lower temperature; the salt present usually bears but a small proportion to the amount of water.

They are among our oldest therapeutic measures. For a long time their real or supposed merits were attributed to mystic influences. Even to-day the public is inclined to assign an undefinable, mysterious influence to mineral waters. Modern chemistry has taught their exact composition, and empiricism and clinical research have defined their practical application.

In considering the physiological and therapeutic action of mineral waters, we should remember that they are very complicated bodies, and it is therefore difficult to determine the active substances in any special water. This difficulty is enhanced by the number of extraneous elements that are associated with a course of waters. We have a voluminous literature bearing upon the subject, but there are very few unbiased, carefully studied cases. Within recent years von Noorden and others have sought to determine the real value and direct effects of mineral waters on the system. Their results thus far tend to show that no mineral waters have any appreciable influence upon body meta-

bolism. On the other hand, Bischoff, Voit, and Kaupp have demonstrated that increased supply of sodium chloride augments the amount of nitrogen excreted through the urine. Until these studies have been completed and their conclusions substantiated, we must continue to base our judgment upon empirical knowledge in conjunction with what we otherwise know of the action of the individual ingredients.

The action of these waters is, however, not confined to their mineral ingredients, but must in part be attributed to the contained gases as well as to the vehicle, water. The latter is an excellent solvent, a diluent, a diaphoretic, and an enuretic. Taken cold, it is said to contract the gastric vessels and to reduce bodily temperature. Reflexly it stimulates intestinal peristalsis. The warm waters are more agreeable to the stomach, whose secretions they are said to stimulate; warm water also acts as a cleansing agent to mucous membranes. Taken in large amounts, water is said to stimulate the heart's action and to temporarily increase blood pressure. Thus, it not only assists in the digestion of food, but also is an important factor in the excretion of waste products from the body.

The therapeutic application of mineral waters to gastro-intestinal diseases may be conveniently arranged into:

- a) The drinking waters.
- b) Gastric Lavage.
- c) Their administration *per rectum*.
- d) Their hydratic or external application.

In the present writing I shall confine myself to the consideration of the drinking of mineral waters.

\* Read at the meeting of the Eastern Medical Society, June, 1902.

In no class of diseases has the internal use of these waters gained more of a reputation than in affections of the gastrointestinal tract. The waters may be administered in single doses to overcome an acute condition (*e. g.*, acute intestinal catarrh, short standing constipation, so-called bilious attack, etc.), or—and this is the usual mode of procedure—a course of waters or of their artificial products (salts, artificial waters, etc.) may be resorted to. Such a course of waters (“Kur” as it is termed in German) may be taken at the spring itself, or elsewhere. Undoubtedly, the best results are obtained where the waters are taken at the natural source, for here a number of auxiliary but important factors come into play.

These are the change in climate, altitude and surroundings, out-door exercise, amusements, freedom from business routine and domestic cares, constant medical surveillance, regulation of diet and daily habits, drinking of a *large* amount of water, and the additional benefits derived from massage, baths, electricity, etc.

And this leads me to say a few words about our native resorts. They are very numerous, they can be easily reached, their natural surroundings are, as a rule, idyllic. While a large number of them lack recent and accurate analyses, their waters, in many instances, equal or excel those of other countries in variety of mineral ingredients and potency. It is unfortunate, therefore, that they have not been better studied and are not scientifically regulated. As far as the waters are concerned, there is no reason whatever why the large majority of our patients should not derive as much benefit from their use as from those at noted European resorts. As matters now stand, there is little doubt but that the average invalid who visits our springs is almost as often harmed as benefited. This will necessarily continue until existing abuses have been corrected. If we would make the most of our native resorts (and it is a business as well as a scientific proposition), then we must first

of all have accurate and frequent analyses of our springs.

Those in authority at the resorts should provide facilities for the proper taking of the waters, such as exist at every well-regulated watering place abroad, and which include specially trained physicians, dietary regulations at the hotels, quiet but pleasant recreation for the patients, institutions for hydro- and mechanico-therapy, etc. With the installation of these will follow the education of the general public and, I may add, of the medical practitioners.

Many of the advantages offered by a course of waters at the watering place are lacking when these waters are partaken of at home. It is difficult for a patient at home to break away from his routine life, and he is usually surrounded by sympathetic persons; being an invalid he is generally spoiled, and too often he finds the temptation for dietary and other refractions irresistible. A course of waters at home is therefore generally improperly carried out, and may, or may not, have the wished for beneficial result. If properly carried out it should have the same beneficial results as when taken at the spring. In those cases which have had initial treatment at a spring, the course at home is most apt to do good.

As regards evaporated salts and artificial combinations of mineral ingredients, they may have the main action of the original waters (laxative, mucus solvents, etc.), but cannot compare with these in general usefulness. For, while these artificial products are in the main correct, they take no account of the substances present in *small* amounts, which may play a more important physiological action of the whole water than we generally concede to them. Nature certainly imbues some of her products with qualities artifice has neither the cunning nor the wisdom to reproduce.

Certain indications and contra-indications to the use of the various classes of springs have been well recognized and



agreed upon. As a fundamental principle—indeed, the most important rule of all—*no systematic mineral water treatment in gastro intestinal disease should be recommended until a diagnosis, or at least thorough chemical analysis of the stomach-contents, etc., and physical examinations have been made.* Certain conditions of the gastro-intestinal system positively interdict the drinking of any mineral waters. These are :

I. Gastric motor insufficiency of any grade, or from any cause whatever.

As von Mering, Moritz, and others, have shown, no appreciable amount of water is absorbed from the stomach; hence the insufficiency can only be aggravated, and there is the further danger of increased distension from the large amount of free carbonic acid gas usually present. For these conditions I have found gastric lavage with a mineral water properly adapted to the chemistry of the stomach to be very useful.

II. The existence or the probability of a malignant growth.

III. In acute gastritis they are apt to do more harm than good.

In the discussion of the therapeutic uses of mineral waters I shall make no further reference to these conditions.

The waters employed in gastro-intestinal diseases are best *classified* according to their most prominent mineral or gaseous constituents; this is sometimes termed the German classification. Where there is more than one prominent ingredient, a composite name is employed. Thus arranged, we have :

1. Saline waters; most prominent ingredient, sodium chloride.

2. The alkaline waters, subclassified into :

a) Simple alkaline; most prominent ingredients, sodium bicarbonate and carbonic acid gas.

b) Alkaline, muriated, carbonated; most prominent ingredients, sodium bicarbonate and chloride, and carbonic acid gas.

3. The sulphated waters, consisting of :  
a) Sodium sulphate or Glauber salt waters, and

b) Magnesium sulphate or bitter waters.

4. Calcareous or earthy waters; most prominent ingredients, calcium and magnesium carbonates and sulphates.

5. Chalybeate or iron waters; most prominent ingredients, the sulphates and carbonates of iron. With this class are often associated the aluminous waters as well as those containing free sulphuric acid.

6. Sulphuretted waters; most prominent ingredient, sulphuretted hydrogen.

7. Acidulous or carbonated waters, which contain a large amount of free carbonic acid gas and few mineral salts.

Sodium chloride is said to stimulate glandular secretions, to increase the elimination of urea and other nitrogenous products, to promote absorption, to cause a transudation into the lumen of the digestive organs, and to dissolve mucus. In large doses it has a laxative action, and its long-continued use causes loss of flesh. Thus, I remember a patient to whom was prescribed a salted régime and saline waters. In spite of the fact that he partook of large quantities of food, he steadily lost 5 pounds a week.

Among the most prominent muriated springs are Homburg, Wiesbaden, Kissingen, Nauheim, Pyrmont, Soden, Acqui (Italy), Bourbonne (France), Cestona (Spain) abroad, and Ballston Spa, Glen Springs, Sheboygan, and some of the Saratoga waters, especially the Hathorn and Eureka, in this country. Less generally known but in excellent local repute are the Louisville Artesian Well (Ky.), Lodi Artesian Well (Ind.), Cornado Springs (Col.), and the Caledonia and St. Catherine Springs in Ontario (Can.).

From what has been said regarding the action of these waters we can understand their utility in subacute and chronic gastritis with diminished hydrochloric acid, in achylia of nervous origin, in chronic

intestinal catarrh with constipation, in biliary catarrh, and in intestinal atony with constipation, as well as their contra-indication in affections of the stomach accompanied by *increased* acidity, such as hyperchlorhydria, ulcer, etc., and in intestinal conditions accompanied by diarrhea.

The second class of waters, which I have mentioned, is the important class of alkaline waters. Their characteristic action is due to bicarbonate of soda and free carbonic acid. Some of these waters contain also sodium chloride in varying amounts. Given after meals, the *alkalies* and their carbonates antagonize acidity and impede normal digestion; in the empty stomach they incite a flow of gastric juice (Brunton, Ringer). Their mucus-solvent and bile-stimulating properties are disputed by some authorities. They are slightly diuretic and in large doses laxative. The systemic action of *carbonic acid* is still in doubt. It is the most prominent gaseous ingredient of mineral waters. It renders water palatable by imparting the "sparkle" and a slightly acidulous taste; it increases the appetite; by causing eructations it assists in expelling any gases formed during digestion, and in overcoming flatulence; it allays nausea and is said to increase intestinal peristalsis. It combines with the carbonates to form the bicarbonates and renders the urine less acid.

The pure alkaline waters are of value in excessive gastric acidity, in gastric and intestinal catarrh, and in mild constipation. They are also much used in catarrhal jaundice. They are contra-indicated in diarrhea or in conditions of diminished acidity without catarrh. Owing to their increased soothing effect, the thermal waters of this class are especially indicated in irritable gastro-intestinal conditions.

The most prominent *thermal* waters of this class are: Vichy and La Malon in France, and Neuenahr in Germany. In the United States they appear to be in California only. Best known are Ukiah

Vichy, Skagg's Hot Spring, and Excelsior (Howard) Spring.

Among the *cold* alkaline waters we have: Vala in France, Fachingen and Salzbrunn in Germany, Giesshübl and Bilin in Bohemia. Domestic: Bladon, Ala., Waukesha, Wis., Adams, Azula, and Seltzers in California.

Some of the alkaline waters contain also a considerable quantity of sodium chloride. Their action and value is very similar to the muriated waters just spoken of. If the alkalies predominate, they are useful as mild alkaline waters. These alkaline muriated waters *must not be drunk ad libitum*, as the amount of chlorides they contain may further weaken debilitated patients. The best known foreign waters of this type are, *thermal*: Ems (Fürstenbrunnen), Neuenahr (Augustaquelle) in Germany, and Royat and Mont Doré in France; *cold*: Tonnstein, Gleichenberg (Constantinquelle), Selters, and Luhatschowitz. In the United States we have, *thermal*: Las Vegas and Ojo Caliente in New Mexico, Aguas, Cal., and the Fountain Geyser of Yellowstone National Park. The waters of these domestic springs are used mostly for bathing purposes. Cold springs within the United States include Manitou, Col., Dixie, Tenn., Cressen Magnesia, Pa., Medical Lake, Wash., and the celebrated Saratoga Springs of New York.\*

Of the sulphated waters the more important group is that of the Glauber's salt waters. Administered warm or hot, they at first increase, but later diminish, intestinal peristalsis. According to Jaworski, very small quantities of the *hot* waters or their salts *stimulate*, and large amounts *diminish*, or even cause a total cessation, of the gastric juice. They also stimulate biliary secretion and gastric duodenal

\* I place the Saratoga waters in this group because, in addition to their preponderance of sodium chloride, they also contain varying amounts of alkaline carbonates. In all, there are from 20 to 30 individual springs whose sodium chloride, according to Crook (Mineral Waters of the United States) varies in amount from 1.86 gm. per litre (Flat Rock) to 12.04 gm. (Champion Spouting).



peristalsis. The *cold* sodium sulphate waters purge, and with continued use cause a diminution in body-weight.

These waters contain also sodium bicarbonate and chloride, but *no* sulphate of magnesium. The type of the *thermal* class is Karlsbad. The waters of its numerous springs differ mainly in temperature and but very little in composition; the hotter waters are the more active. In this country there are quite a number of these springs; to mention a few, we have the Arrow Head, the California Hot Springs, the Pagosa and Middle Park of California, Gibson's Texas Wells, and the Ferris of Montana.

They are of value in gastric affections accompanied by hyperacidity and *not* of nervous origin (*e. g.*, in the after-treatment of ulcers, in gastritis acida with abnormal secretion of mucus, in dyspepsia accompanying torpidity of the liver, and in constipation of short duration); also in gastritis with *slightly* diminished acidity, in duodenal ulcer with hyperacidity, and in subacute and chronic catarrhs of the large and small intestines *associated with diarrhea*.

They are contra-indicated in any condition in which there is a total absence of hydrochloric acid, or obstinate chronic *constipation*, as well as in *nervous* dyspepsia and in debilitated conditions.

The *cold* waters include Marienbad, Tarasp, Franzensbad, Elster, and Rohitsch abroad, and Lower and Upper Aqua de Vida, Cal., Lineville Mineral Springs, Ia., the Porter and Rocky Nits Springs, Col., etc. They are employed in catarrhs *with constipation*, in intestinal atony, in hemorrhoids, and in abdominal plethora.

The sulphate of magnesia waters, taken hot or cold, act as a purge. They are said to cause a transudation of fluid into the intestinal lumen. In large amounts, they act as a cellular poison and an irritant to the mucous membranes, and thus they may aggravate an already existing catarrh. They are depletents of the abdominal viscera, and are suitable for single

dosage. Only the mildest, such as the Bedford Springs, Pa., are to be recommended for a course of treatment. They can only *relieve* and *not cure chronic constipation*.

*Contra-indications*, any condition in which an irritant purge is harmful; this applies especially to ulcers, acute inflammations in or about the bowel, hemorrhage, and aggravated catarrhal conditions.

Most foreign *bitter* waters come from Hungary and Bohemia; they include Hunyadi, Franz Josephsquelle, Friedrichshalle, Pülna, and Apenta. Domestic waters are Crab Orchard and Harrodsburg of Kentucky, Bedford, Pa., the B. B. Mineral Springs of Missouri, American Karlsbad of Illinois, Soda and Alleghany of Virginia, Mountvale of Tennessee, Catoosa, Ga., etc.

Waters with calcium and magnesium carbonates, the chalybeate and the aluminum salts as well as free sulphuric acid, tend to retard peristalsis and to check secretions. In addition it is claimed that the iron waters have the tonic virtues of that drug.

Well-known *calcareous* waters are Wildungen, Rappoldsweller, Contrexéville, Bath (Eng.), Bormeo, and Leuk abroad; and Ballston Spa, all the Saratoga Springs and Geneva Lithia, N. Y., Old Sweet Springs, W. Va., Ballston (Sans Souci), Michigan Congress, Sweet Springs, Mo., Upper and Lower Blue Lick, Ky., and very many others in this country.

These waters are useful in checking diarrheas, make excellent table waters, and are largely employed in genito-urinary affections.

Foreign carbonated chalybeates are Elster, Pyrmont, Franzensbad, Cudowa, Driburg, Reinerz, and Schwalbach; sulphated, Brighton (Eng.), Levico, Roncegno, and Guber. There are many good iron springs in the United States. Some of the *carbonated* are Columbia, Eureka and others, of Saratoga, Chittenango Sulphur and Ballston Spa, N. Y., Owassa, Mich., Sparta Mineral Wells, Wis., Pacific

Congress and Mono Lake of California, and the Iowa Sulphur Springs. Many of the sulphate of iron waters also contain alum salts and free sulphuretted hydrogen. Examples of such are Oak Orchard, N. Y., Bath and Bedford Alum, Va., Indian Springs, Ind., and the Texas Sour Springs. A number of these iron waters also contain free sulphuric acid.

These waters are employed in anemia associated with gastric and intestinal ulcers, dysentery, and chronic diarrhea.

We know very little definitely of the systemic action of sulphuretted hydrogen. It is said to stimulate the intestinal glands, augmenting secretion and producing *laxative* effects.

The *hot* springs contain less of this gas than the cold. Noted European springs are Leuk, Naundorf, Stachelberg, Aix-le-Chapelle, Challis, and Harrogate. In the United States we have very many well-known waters, *e. g.*, Sharon, Richfield, Lower Blue Lick, Green Brier and Salt Sulphur, W. V., Suwanee, Fla., etc.

Ewald states he has noted satisfactory results with these waters in plethora, mucous discharges from the bowel, and hepatic affections.

Of the acidulous or carbonated waters I need only say that they contain large amounts of carbonic acid and few or no salts; that they have the properties of carbonic acid, already stated, and that they find their greatest usefulness as table waters. A few popular ones are Apollinaris, Rhens, Selters, Giesshübl, Gleichenburg, Waukesha, Bladen, and the Sweet Springs, W. Va.

In the above survey of the subject I have endeavored to point out the most important therapeutic properties and indications for the use of some groups of mineral waters. It will be noted that much in regard to the action of these waters is purely theoretical, or at least empirical. Accurate scientific studies are very much needed.

The class of gastro-intestinal affections mostly benefitted are catarrhal and ulcer-

ative conditions, chronic constipation, diarrhea, and hemorrhoids. In general, the more severe or longer the duration of the affection, the less likelihood is there of its cure through mineral waters. This rule applies not only to hydro-therapy, but to all therapy. It is claimed that the severer forms are never cured by the use of mineral waters, and as for the milder forms, the rest, diet, and other auxiliary factors are the real curative agents. Be this theoretically as it may, the fact has been proved by centuries of experience—and this after all is our best teacher—that innumeral cases of diseases resisting all other forms of treatment have not only been temporarily benefitted, but permanently relieved by a course of mineral waters.

#### ORTHOFORM.

(META-AMIDO-PARA-OXYBENZÖIC-METHYL ESTER)



By J. W. WAINWRIGHT, M.D., New York City.

Orthoform is a white, voluminous, odorless and tasteless powder, non-hygroscopic, and but slightly soluble in water, freely so in alcohol and collodion.

Orthoform should not be used in conjunction with formaldehyd, silver nitrate, or potassium permanganate solutions, or in powder with antipyrin or bismuth subnitrate; on the contrary, however, the bichloride of mercury, turpentine, tincture of iodine, and solutions of copper sulphate are indifferent to the action of orthoform; combined with iodoform, thio-iodoform, dermatol, zinc oxide, euophen, aristol, calomel, and salicylic acid, advantages are sometimes secured, dependent upon the character of the lesion and the effect which it is desired to produce. Solutions of carbolic acid, 3 to 5 per cent., lysol, lead acetate, the borates, and aluminum salts can be prescribed with orthoform.

According to Deniges,<sup>1</sup> on adding to a mixture of 0.1 gm. of orthoform, 1 c.c. of water, and 4 to 5 drops of soda solution, 1 drop of sodium hypobromite solution, a



red color appears. On further addition of the hypobromite solution, the compound, in addition to the color, forms a characteristic blood-red precipitate. On heating the mixture to boiling and adding ammonia drop by drop to the solution, the precipitate formed with the hypobromite is dissolved as soon as an excess of ammonia is added, producing an orange coloration. On adding 0.01 gm. of orthoform to 1 c.c. of a boiling solution made by mixing 5 gms. of mercuric oxide, 20 c.c. of sulphuric acid, and 100 c.c. of water, a yellow, changing to an orange, color is produced. If 10 to 15 drops of soda solution and 1 to 2 gms. of orthoform be mixed with 50 c.c. of water, boiled and shaken for a short while, a compound is produced of a pink or reddish color.

The anesthetic or analgesic effects of orthoform are best secured, when it is brought into direct contact with the sensory nerve filaments; then a profound and prolonged effect is secured, no matter how applied. The slow solubility in the secretions allows only enough to be used to produce this continuous anesthesia.

Orthoform has been successfully employed in burns of the second and third degree, varicose and other ulcers, hemorrhoids, carcinoma, tuberculous ulcerations of the throat, transplantations, dental caries, keratitis, conjunctivitis, corneal ulcers, and after operations of all kinds where there is loss of tissue. It is antiseptic, preventing fermentation and putrefaction, but its antiseptic power is limited. It limits the amount and favorably influences the character of the secretions. It is often advisable to combine with it some of the antiseptics already mentioned, which will assist granulation or change the character of the lesion and depend upon orthoform for its pain-quieting or anesthetic effect. Orthoform has been applied in various ways and for various purposes. As a diagnostic agent in determining gastric ulcer as well as for the relief of the pains in gastritis; in an emulsion with yolk of egg, or by insufflation

for dysphagia accompanying tubercular or specific laryngitis; in the nose after operations; as an ointment with lanolin to external lesion, and in conjunctivitis, etc.; in solution with alcohol or collodion after plastic operations; as a suppository after operation for hemorrhoids, curetment of the uterus, urethritis, and as a bougie for the treatment of gonorrhea; suspended in water or a bland oil for painful cystitis or prostatitis. Finally in dentistry applied to cavities after extraction.

Bouveyron and Siraud<sup>2</sup> have been administering orthoform in a total daily dose of 2 to 3 gms. (30 to 45 grs.), divided into four to six powders, with success against the essential headache of syphilis. Most frequently the smaller dose, namely, 2 gms. (30 grs.) in twenty-four hours, is sufficient to quiet all this rebellious pain. Usually a decrease takes place during the first night, and after that the pain disappears entirely. In order to avoid recurrence it is necessary to continue the drug several days. The precise method of employing the drug necessitates a distinction between continuous and intermittent headaches. For the intermittent headaches the best method is to take a powder containing 0.50 gm. (7½ grs.) of the drug about one hour before the expected time for the pain to appear, and two similar powders during the latter part of the night. For the continuous pain, four of such powders should be given at regular intervals; for example, every six hours. Sometimes the ingestion of this drug provokes a sensation of heat or irritation of the stomach, which may be corrected by giving an equal quantity of sodium bicarbonate with each administration. On the other hand orthoform does not quiet in any degree dysphagia of syphilitics or other pains in the thorax, periosteum, or vital organs.

Dunbar Roy<sup>3</sup> details several cases of otitis media treated with orthoform suspended in albolene. The mixture was warmed, shaken so as to thoroughly mix it, and the auditory canal half filled and

the mixture allowed to remain, with the effect of entirely relieving the pain. M. A. Reasoner<sup>4</sup> gives the history of a case of cystitis with enlarged prostate treated with orthoform injected into the bladder suspended in water. One to four drams of a 1 per cent. solution of orthoform was used once a day after washing out the bladder with hot boric acid solution. Bock used orthoform as a dusting powder after operation in the nose, mixed with other substances, and secured perfect healing without the formation of pus and without pain; while Daniel found that the use of orthoform allowed him to make endoscopic examinations of the urethra and cystoscopic examination of the bladder when the mucosa was highly sensitive, without pain or the unpleasant complications which frequently attend the use of cocaine.

August Luxenburger,<sup>5</sup> in a series of culture experiments with orthoform, iodoform, and lycopodium, found that bacillus pyocyaneus, staphylococcus citreus, and streptococci remained sterile on the former and flourished on the latter two. Not only was the growth of the bacteria arrested, but the bacillus pyocyaneus and the staphylococcus citreus developed scarcely any color and but little odor. He has used orthoform either pure or in combination with dermatol, zinc oxide, euophen, aristol, calomel, salicylic acid, etc., in bruised and cut hands and fingers, burns and scalds, ulcers—tubercular, running, traumatic, decubitic, trophic, and varicose; in chancroid, carcinoma, ingrowing toe nails, fistula, amputations, tracheotomy, etc.

Three cases of stone in the bladder were treated with daily injections of 1 gm. orthoform in sodium chloride solution with excellent results. Tubercular cystitis was also benefitted, but two cases of gonorrheal cystitis did not react. In only five of three hundred and thirty cases did local disturbances—vesicular or pustular eczema—occur in the neighborhood of the wound.

G. Spiess<sup>6</sup> believes that the laryngeal spasms of whooping-cough are due to irritation of the peripheral endings of the sensory nerves of the larynx, and has found that they can be obviated by anesthetization or rather hyperesthetization of the laryngeal mucous membrane by means of insufflations of orthoform.

G. Spiess<sup>7</sup> recommends the pure powder or equal parts of it and sodium sozoiodol, to alleviate and shorten the course of acute coryza; the powder is blown into the naso-pharynx several times a day.

B. Frankel<sup>8</sup> speaks of the use of orthoform and cocain as a local anesthetic to be applied to the nose in reflex neuroses, such as asthma and hay fever.

In a discussion on the use of orthoform in tubercular laryngitis, Emil Mayer,<sup>9</sup> of New York City, states:

"I would like to endorse the use of orthoform for this particular condition, and would call attention to the preparation with the white of an egg, that makes a very stable preparation and one that is valuable. I have found orthoform mixes very well with some of the liquid vaselin preparations, such as benzonol, and I have used that sometimes when the emulsion was not to be obtained. It may be said also that orthoform is not only of use for the painful deglutition that is associated with the tubercular trouble, but also in those conditions following operations. Nothing will give your patient so much comfort after a tonsilotomy as this emulsion."

Dr. S. Solis-Cohen,<sup>10</sup> Philadelphia, states that for temporary relief of the pain attending inflammatory and ulcerative affections of the throat, orthoform applied in various ways is probably the best agent now at our command. For two years, he states, he has been using lozenges containing from 0.008 to 0.06 gm. ( $\frac{1}{8}$  to 1 gr.) each of orthoform in cases of acute and subacute sore throat (tonsillitis, pharyngitis), whether of rheumatic or other origin, and in cases in which pain in swallowing has been caused by ulceration or infiltra-



tive conditions involving the epiglottis and arytenoid eminences. In some cases adrenal extract has been used at the same time. He states that this treatment has afforded such relief as to enable the patient to eat with comparative ease. The improvement has been especially noticeable in cases of tubercular laryngitis, in which he prescribed the orthoform lozenges ten minutes before meals; it permitted the patient to take the food with a minimum of discomfort. The advantage of the lozenge over insufflation or other methods of application is that the patient can himself make use of the analgesic agent.

J. Wright<sup>11</sup> has used it locally in laryngeal tuberculosis.

W. Freudenthal<sup>12</sup> uses an emulsion of menthol and orthoform on the mucous membrane of the ulcerated larynx, and states that the anesthetic properties of the latter cannot be doubted. This emulsion produces a large area of local anesthesia and is curative.

P. S. Donnellan<sup>13</sup> says, in speaking of laryngeal tuberculosis: "I have found orthoform applied by means of a powder-blower to ulcers with exposed nerve endings very useful in relieving dysphagia.

John Sendziak<sup>14</sup> states, that in tuberculosis of the larynx orthoform not only acts as an antiseptic and analgesic, but that it seems to act favorably upon the condition itself. He applies it in the form of an emulsion:

|                       |                |
|-----------------------|----------------|
| Orthoform .....       | 12.0           |
| Menthol .....         | 1.0 to 5.0     |
| Ol. amygd. dulc. .... | 30.0           |
| Vitelli ovarum .....  | 25.0           |
| Aq. dest. ....        | q. s. ad 100.0 |

Fiat emuls. Sig. Apply locally.

Edward W. Wright<sup>15</sup> reports on the treatment of hay fever and states that orthoform allays the hypersensitiveness, hyperesthesia, and the paroxysmal sneezing. Its effects are in duration many times longer than from cocain and without toxic effects.

In a recent dissertation M. Vignat<sup>16</sup> describes Czerny-Trunecek's method of dealing with epithelial cancer. The treat-

ment consists in the local application of arsenous acid, to which orthoform may be added, as the acid causes severe and lasting pain. To begin with the following solution is recommended:

|                       |         |
|-----------------------|---------|
| Orthoform .....       | 1.0 gm. |
| Arsenous acid .....   | 0.1 gm. |
| Alcohol .....         | 7.5 gm. |
| Distilled water ..... | 7.5 gm. |

The proportion of arsenic may be gradually increased until the following strength is reached:

|                       |          |
|-----------------------|----------|
| Orthoform .....       | 1.0 gm.  |
| Arsenous acid .....   | 1.0 gm.  |
| Alcohol .....         | 40.0 gm. |
| Distilled water ..... | 40.0 gm. |

Solutions of still higher strength may be gradually substituted for the above. After the crust has fallen off, the wound is irrigated with a solution of orthoform, 1 gr. to 1 dr. of glycerin, to render the applications of the acid painless.

Dr. C. W. Allen<sup>17</sup> uses a paste composed of equal parts of white arsenic and orthoform in the treatment of epithelioma of the lip. He has employed this combination for a couple of years, and states that the application gives very little pain.

Albertin<sup>18</sup> reports that after the application of orthoform to the pedicle in a case of abdominal hysterectomy there was seen a rise of temperature (39.5°), vomiting, and an eruption of wine-red patches beginning on the face extending over the upper part of the body in the form of isolated and confluent, slightly raised red plaques. The fever and general symptoms disappeared after the removal of all the orthoform and the application of talcum and bismuth.

Wunderlich considers eczema, erythema, and gangrene following its use as due to the anesthesia of the nerves, which deprives them of their regulatory influence upon the blood vessels.

Brocq<sup>19</sup> states that both solutions and ointments sometimes cause severe pruritis and hyperemia; in one case the powder applied to a fissure of the vulva caused marked tumefaction and swelling in various parts of the body.

G. E. Decker<sup>20</sup> reports two cases of vesicular dermatitis of the hand, following the application of the powder to an injured finger.

Miodowski<sup>21</sup> reports sloughing after the application of a five per cent. ointment to an old varicose ulcer of the leg.

Dubrenill<sup>22</sup> groups the severe symptoms occurring after the local application to raw surfaces into (1) erythema, which may or may not be complicated with vesiculation or pustulation; (2) gangrene, a complication which is little known. The erythema may be localized, or so diffused as to become generalized; if vesicles arise they may be closely aggregated, burst and produce considerable secretion. Subjectively severe burning is complained of by the patient.

Asam<sup>23</sup> reported a case of dermatitis, in which large bulla containing coagulated serum were observed. He records nine cases in gangrene of varying degree occurring after the application to wounds and ulcers.

Dr. G. Colburn Clement,<sup>24</sup> of Haverhill, Mass., reports: "Some time ago I saw the query, how long orthoform could be used upon abraded surfaces. Two years ago I began dusting orthoform over a large, deep, and very painful ulcer upon the leg of a woman to-day passing her 91st birthday. It has been used continuously *ad libitum*. From the first it gave relief to pain, removed all fetid odor, and in a short time stimulated new granulations, so that 6 months ago the ulcer was healed. Occasionally, now, a superficial abrasion of small dimension appears, but its progress is stayed by the application of orthoform. These are the results, with no untoward symptoms at any time, and to my mind settles the danger of toxemia from orthoform."

Regarding the disagreeable after-effects from the use of orthoform, which have been reported, it seems that there is occasionally intolerance. The trouble, however, is usually a too free use of the remedy in the majority of the cases, the physi-

cian leaving the application to the patient, and he seeking only relief from pain, uses the remedy too freely.

There have been five cases of eczema said to be due to orthoform in 330 cases treated (Luxenburger<sup>25</sup>); gangrene not so frequent. Even malnutrition of the tissues due to infection or hyperemia are reported as predisposing causes to necrosis of the tissues, so how much should be charged to the effects of orthoform, and how much to natural effects following the pathological condition is hard to determine. Whenever eczematous conditions accompany the use of orthoform, it should be discontinued for several days, and if pain is severe tried again. If the same condition follows its use a second time, it should be abandoned.

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## Editorial.

### MINERAL WATERS AND GASTRO- INTESTINAL DISEASES.

In approaching the subject of mineral waters from the standpoint of their therapeutic relation to gastro-intestinal affections and diseases of metabolism we must be careful to avoid exaggerated enthusiasm on the one hand and pronounced skepticism on the other. Many physicians look very lightly upon the efficacy of mineral waters in the cure of disease, while an equal number place every confidence in their therapeutic action.

With a view of striking a happy medium, so to say, and of presenting the subject in an unbiased and scientific manner, Dr. SKYMOUR BASCH has contributed an article on "The Employment of Mineral Waters in Gastro-Intestinal Diseases."

The paper covers the ground very carefully, and the various active ingredients of the different mineral waters, their indications and contra-indications, the importance of auxiliary factors in effecting results, the localities of suitable springs for certain diseases and conditions, the *rationale* of their action, and many other valuable items receive attention. The internal administration of water *per se*, if properly regulated, is certainly of great therapeutic value and productive of good effects.

How much more beneficial water *plus* a saline or other active ingredient would act, requires no fertile imagination.

The statement of the writer that "no systematic mineral water treatment in gastro-intestinal diseases should be recommended until a diagnosis or at least thorough chemical analysis of the stomach contents and physical examinations have been made," seems the cornerstone of the successful application of mineral waters in gastro-intestinal diseases. It is worthy of note that our native resorts equal, if they do not excel, those of other countries. All the more pity then that "they have not been better studied and are not scientifically regulated."

Dr. BASCH, who, by virtue of his prolonged experience in the treatment of gastro-intestinal affections, is qualified to speak authoritatively, has given us an article which presents the subject in its true light and has given facts which admit of no argument. Every general practitioner meets with patients who seek advice as to the best spring or mineral water for his particular ailment; and it is well to have at hand such a comprehensive contribution as this.

SINCE THE DAYS OF KOLLER and his discovery of the cocaine effect many local pain-relieving agents have been placed at the disposal of the profession; some have been rather short-lived, some have been discarded after a somewhat longer period of trial and observation, while others have stood the test of careful experimentation and have been found of considerable value. To the latter class belongs orthoform, a drug whose range of usefulness is considered in a paper by our friend, Dr. J. W. WAINWRIGHT. Wherever it has been possible to bring a local anesthetic into direct contact with sensory nerve filaments, orthoform has been tested by the therapists of all countries. The results of these trials have been concisely compiled by Dr. WAINWRIGHT, and his paper embraces the various fields in which this

drug has been applied. It is not claimed that this drug is an ideal anesthetic, for like other local anesthetics it may produce disagreeable effects in susceptible persons or under unfavorable conditions. While cutaneous manifestations may occur when the utmost care is exercised in its application, there is justification for the statement that "the trouble is usually a too free use of the remedy in the majority of cases, the physician leaving the application to the patient, and he, seeking only relief from pain, uses the remedy too freely." Orthoform as a local anesthetic, it seems, has come to stay. It may be combined with other drugs in a number of ways, as will be observed from a reference to the article. Those interested in this drug will find in Dr. WAINWRIGHT's paper a very useful resumé of its therapeutic application.

CASES OF MALNUTRITION in infants and young children are among the most frequent and most difficult with which the general practitioner has to contend. Apart from the marasmus dependent upon tuberculosis, syphilis and other constitutional organic diseases, there is a distinct class due to lack of assimilation for want of a proper quality or quantity of food. In this issue a short abstract of an article on malnutrition by Dr. T. J. ELTERICH contains many important suggestions.

THE RECENT HOT WAVE with its fatalities has emphasized the necessity of great caution in our mode of living during the heated term. Some very timely and valuable advice on the treatment of heat-stroke is contained in our abstract of an article by Dr. ANDREW DUNCAN.

### *THERAPEUTIC NOTES.*

Eugallol, the monacetate of pyrogallol, is considered by Nussbaum the most effective agent for the treatment of psoriasis.

Grasset speaks of helenine as very efficient in laryngismus stridulus.

Livingston advocates ergot whenever there is a disturbed equilibrium of the circulation — insomnia, headache, cerebral congestion, neurasthenia, angina pectoris.

The sodium succinate in five-grain doses, three times daily, has been recommended for cholelithiasis.

Inunctions of mesotan, a recent salicylic acid derivative, are recommended by Reichmann for rheumatism.

Aspirin, like other salicylic compounds, has been recommended and used in the treatment of diabetes mellitus.

The soda solution used for boiling surgical instruments will ruin those made of aluminum.

In pulmonary edema of children Southworth has obtained brilliant results from inversion of the patient.

Ipecac acts as an anti-emetic or expectorant, according to the dose prescribed.

Cenex recommends formalin vapor in the treatment of infectious catarrh, grippe, and pertussis.

The hypodermatic administration of atropine will occasionally relieve the pain of nephrolithiasis.

Molist has had a number of successful results in mastoiditis, otitis media, and furunculosis of the external ear, from the internal administration of beer-yeast in the form of cerevisina.

Loebisch considers formin superior to carbolic acid, naphthol, and thymol as an intestinal disinfectant.

In the treatment of adenitis in the cervical and occipital regions attention should be directed to a frequent etiological factor — pediculosis capitis.



## Current Literature.

**MALNUTRITION.** — Theodore J. Elterich (*Philadelphia Med. Journal*, May 23, 1903) says: Many cases of malnutrition may be more easily prevented than cured. A frequent and sometimes serious mistake made by physicians is that they either allow the infant to be weaned for evidently insufficient reasons, or, on the other hand, of having breast-feeding continued when the child does not thrive. In both instances a proper knowledge of what can be done with human milk, that is, with the management of its different constituents, by increasing its relative proportions, would be of benefit to both the mother and the child, and, in some instances, even save the life of the latter. The effects of diet upon the quality and the quantity of milk are often very great. In those cases in which the milk does not agree with the infant, or its development is unsatisfactory, an intelligent attempt should be made to rectify it. Another point, and one so frequently neglected by the physician, is the systematic weighing of the infant during the first year of its life. It is of great importance and the most useful method of determining the nutritive condition. A sudden loss in weight is often the precursor of an impending illness.

In the many cases in which the mother is unable, for physical or other reasons, to nurse her infant, a proper substitute must be found with as little delay as possible. The highly reprehensible practice of waiting for some definite improvement is liable to result in a very pronounced condition of malnutrition.

One of the first resources is to secure a wet-nurse. Unfortunately such persons are hard to find, and, when found, rarely possess the qualifications necessary for this function.

The problem in the treatment of malnutrition consists in adapting the milk of a domestic animal to the digestive and assimilative capacities of the individual

patient. The only one which can be modified to the needs of the individual case is cow's milk.

My experience in the management of cases of malnutrition has shown me that mixtures containing a low percentage of fat and proteids and a moderate percentage of sugar yield the best results. The proportions which I have found the best suited for the early treatment of the majority of cases of malnutrition of a high grade are:

|                  |      |
|------------------|------|
| Proteids .....   | 0.25 |
| Fat .....        | 0.25 |
| Sugar .....      | 4.00 |
| Lime water ..... | 5.00 |

After a few days I increase the percentage to

|                  |      |
|------------------|------|
| Proteids .....   | 0.75 |
| Fat .....        | 1.00 |
| Sugar .....      | 5.00 |
| Lime water ..... | 5.00 |

As an infant gains in weight, I increase the percentages of proteids and sugar, but for some time I do not raise the percentage of fat above 1.00. For some unknown reason these patients seem to be unable to utilize any but small amounts of fat, and continue to lose when larger quantities are given. My experience in this respect is fully in accord with that of Westcott, who says: "It is a curious fact that there seems to be in certain delicate infants a distinct inability to digest cream when added even in very small proportions to a milk dilution, and the same experience has occurred with certain infants temporarily fed, for sufficiently good reasons, upon condensed milk, when an effort was made to increase the very low proportion of fat in such mixture by adding small amounts of fresh cream, as, for instance, half a dram of cream to a bottle of three or four ounces. In fact, it seems to me quite probable that the low proportion of fat in condensed milk solutions constitutes one of the factors, in conjunction, of course, with low proteids, that sometimes make this preparation readily tolerated in certain cases in which more reasonable modifications fail, an experience that, I doubt not, has occasionally

occurred to the mortification of others besides myself."

For this reason the administration of cod-liver oil in these cases is not only useless, but harmful as well.

In those cases which improve it is usually possible gradually to increase the amount of fat and other constituents until the proportions suitable for a normal infant of the same age are reached. In difficult cases the use of whey may be found to act beneficially. Whey contains all the sugar and water of milk, while all the caseinogen and most of the fat has been removed. The fat and proteid percentages are low, the remaining proteids consisting almost entirely of lactalbumin. Whey may be made according to the formula found on the label of every bottle of Fairchild's essence of pepsin.

Attention to cleanliness, maintenance of an unusual supply of fresh air and sunlight, and keeping up the bodily temperature are all important details of treatment. Stimulation by small doses of brandy is of great benefit. The various complications must be treated according to their nature.

**TREATMENT OF HEAT-STROKE.**—The *New York Medical Journal* (June 6, 1903) abstracts an article by Dr. Andrew Duncan from the *Edinburgh Medical Journal* of March, as follows:

**Preventive Measures.**—In all cases where the soldier or traveler is exposed to a hot sun, alcoholic drinks should be eschewed, and tea or coffee be the chosen beverage.

**The head-covering.**—In the writer's opinion, the best protection against the sun is afforded either by the lungi with spectacles or the solar-topi. As an article of military dress, the ordinary cork or wicker helmets are more or less admirably adapted to form sun-traps. The Wolseley Egyptian helmet, the gray topi, the gray Elwood helmet have all been well spoken of. Lastly, old European residents in Egypt, whenever they go into the desert on a shooting expedition, are accustomed

to wear under their helmets a tight jean skullcap, similar to that worn by the Arabs under the turban or tarboosh, and find that it greatly diminishes the penetration of the sun's rays.

Next to the head, it is most important to protect the eyes by the use of neutral-tinted spectacles.

And, finally, the spinal cord must not be forgotten. A thick woolen pad sewn into the coat should be worn.

The dress must be loose around the neck, chest, and abdomen. The material should be a light woolen one, or khaki serge; cotton is not advisable, being a great conductor of heat; wool, on the other hand, is a slow conductor. As regards color, some experiments formerly made at Aldershot showed the least absorbing color for the direct heat of the sun to be white, then gray, yellow, pink, and black. After several attacks of severe sunstroke necessitating frequent invaliding, I read one day a letter from an executive engineer in the *Pioneer* on the prevention of sunstroke. This officer had had three attacks of sunstroke. He had then come to the conclusion that the dangerous rays of the sun were not the heat rays, but the chemical. His argument was based on the fact that no one ever gets heat-stroke from exposure to a dark source of heat, or one where the luminous rays possess no degree of chemical energy, *e. g.*, the furnaces in an arsenal. In scientific language, the actinic rays are the dangerous ones; they will pierce through anything except a ray of color, interposed to act as a filter. He therefore argued that the only way to ward off sunstroke was to treat his body as a photographer treats his plates, and envelop it in red or yellow. He therefore lined his helmet and coat with yellow, and, after five years of extreme exposure, had no further sun attacks. Acting on this theory, I lined my helmet with orange-red flannel, had a similarly colored pad sewn into the inside of my khaki coat at the back, and wore an orange-red shirt



always when on the line of march. I never again felt the effects of the sun. I would therefore strongly recommend similar measures to be undertaken by any officer who cannot stand the direct heat of the sun.

*Curative Treatment.*—On the occurrence of heat-stroke, the patient should be moved into the shade where possible, his clothes opened, and cold water from a mussack be poured on to his head and neck. Ammonia should also be applied to his nostrils. The douche must be repeated until a favorable effect be produced. A turpentine enema should also be administered, and a large mustard poultice applied to the chest. Ice to the head should not be applied in cases where the skin is cold and the pulse feeble. If convulsions occur, a few whiffs of chloroform are indicated. In the form characterized by the long persistent subsequent head pain, blisters to the shaved vertex and nape of the neck, with quinine, give some relief, but time is here the chief remedy.

In Italy, in cases of direct heat-stroke, the administration of a solution of trinitrin (1-1000), twenty drops to water, 4,500 minims, every quarter of an hour, until the complete disappearance of the symptoms has been found successful.

As regards venesection: This has been advocated by some practitioners. But, impressed by the eloquent words of the late Professor Maclean as to the invariable fatality induced by this proceeding, I can offer no opinion as to its usefulness, as I have never dared to abstract blood. Lastly, any one who has once suffered severely from heat-stroke should not return to the tropics.

GOITRE. — P. M. Sater (*The Cincinnati Lancet-Clinic*, February 14, 1903) remarks:

As to the treatment of this disease, much has been written, both as to external and internal, yet in my own experience but very little can be said in favor of external treatment. The much-lauded tincture of iodine, the simple iodine ointment,

the red oxide of mercury especially, which, we are told, promotes absorption, all have proved quite unsatisfactory in my own hands. The latter, effective as it may seem, yet cruel in its action, is still used by many; but just why a patient should be subjected to such treatment is an enigma. After once anointing the growth with the ointment, then placing your patient near a hot stove or in the scorching rays of a hot sun, there to remain until the neck is blistered or absolutely raw, as I have seen them, creates a condition which, in my judgment, calls for treatment just as much as the original trouble for which your patient consulted you. But, as some are yet firm in their belief that "like cures like," the barbarous practice of creating an external lesion to cure an internal one may still continue with many of our calling. We are all well aware of the fact that a submissive patient is the one preferred under all circumstances; but just why there are not more refractory ones when this line of treatment is instituted I at present am unable to say. As to the internal treatment, much might be said of iodine and its preparations in all forms of this disease, with possibly an exception to the colloid form, especially in recently developed cases. The same holds good with extract of the gland itself, the best results being obtained from the fresh gland in a majority of cases, rather than that in tablet form.

Perhaps the largest series of cases is that quoted by Augerer, who, with the raw gland, treated seventy-eight cases, in which only four or five were uninfluenced, the hard, firm forms remaining unaffected, while the soft, small and parenchymatous forms, especially in the young, were most favorably benefited, the fresh sheep's gland being used in all his cases.

The exact method of action of the thyroid gland, when taken internally, is a matter of some doubt as yet, but it is supposed to put the gland at rest, physiologically speaking.

The potassium salts referred to have proved all claimed for them in my experi-

ence, and for some time past I have used nothing else for my sheet anchor. It is my custom in assuming charge of a case of goitre to thoroughly clean out the alimentary tract by administering a few doses of mild chloride, with sodium bicarbonate and podophyllin; follow this with a hot salt-water bath—twice a week (in some cases the bathing for mental effect only); then begin my treatment with potassium iodide in small doses, usually about two and a half grains, freely diluted, after meals only. The next prescription contains five grains to each dose, while the third contains seven and one-half grains, and with the fourth prescription, if patient shows no signs to the contrary, about ten grains to each dose, this size dose being continued for a few weeks till the changes looked for appear (a diminution in size of gland), then is added one ounce of buchu, juniper and acetate of potassium, which later on is increased to two ounces, thus making one-half the amount of medicine buchu, juniper and acetate of potassium, and this combination continued until the cure is effected, which may be any way from thirty to ninety days, depending on the conditions present. A breaking out on the body, resembling the eruption of measles, at times develops in some cases, but a reduction in the size of the dose is all that is needed, but never a cessation of treatment.

Believing, as I do, that the addition of a diuretic enhances the action of the iodide as an absorbent and eliminating agent, this treatment has been very satisfactory in a number of cases recently treated and under treatment at the present time.

**OZONE IN PERTUSSIS.**—The *Monthly Cyclopedic of Practical Medicine*, October, 1902, abstracts as follows:

In pertussis ozone is a specific and a strong antispasmodic during the stage of whooping. Given in inhalations of ten minutes, three or four times in the twenty-four hours, it causes marked diminution in the number of paroxysms, and seems

to prevent recurrence. It decreases cyanosis, and seems to aid in the amelioration of a complicating pneumonia. The time between paroxysms is often shortened, and the cough is attenuated in intensity, violence, and duration. The treatment should be kept up two weeks at least. It is perfectly harmless.—Louis Delherm (*Archives de Médecine des Enfants*, May, 1902).

**SCABIES.**—The first indication in the treatment of scabies is to remove the cause. If the eczema, which appears, is cured, the insect will still continue to irritate the skin and the disease remains. A remedy must be used which is able to destroy the insect and its eggs. Unfortunately, such a remedy may produce an eczema or dermatitis, therefore it is well to use the remedy which will destroy the insect and its eggs most quickly and at the same time irritate the skin the least. Some medications for scabies cause eczema, and it is hard to know when the scabies ceases and the eczema begins; but the treatment of the scabies is only completed when the eczema produced by it disappears. The milder form requires only an application of an efficient remedy, but if the disease is old, and the accompanying eczema is intense, then several applications are necessary. Kaposi considers the following the best remedy:

R Flor. sulphuris,  
Ol. rusci ..... āā ptes. xx  
Sapon. vir. .... xl  
Pulv. cretæ albæ ..... v  
Adipis ..... ptes. xl

M.

This salve is brownish-black. Every furrow is to be injected with it. Naphthol, recommended by Kaposi, is a valuable remedy, used when the smell of tar is objected to. It takes the place of that ingredient in the prescription, as follows:

R Naphtholi ..... 3 i  
Sapon. vir. .... 3 iv  
Adipis ..... 3 vj  
Pulv. cretæ albæ ..... cli

M.

The patient is rubbed with this without any previous bath, which might irritate



the skin. After the application the patient should lie in bed for a few hours between woolen blankets.

Fournier treats scabies by a thorough application of soap, followed by a full bath. Then the following ointment is rubbed in over the whole body:

R Sulphuris sublim. .... 3 j  
Sodii carbonat. .... 3 iv  
Glycerine ..... fl.oz. ij  
Gum tragacanth. .... gr. v

This is followed by a second bath; the personal and bed linen should be carefully laundered, and gloves which have been worn should be burned. Emollient baths and the use of powdered starch or of glycerite of starch will be of service; bichloride of mercury has been used; it is efficient but very dangerous, so it is well to avoid it.—*Medical Times*, March, 1903.

**WATER IN HEALTH AND DISEASE.**—B. F. Hart (*St. Louis Courier of Medicine*, April, 1903), in an article on "Preventive Medicine," says:

Many people suffer from ill health and neurasthenic symptoms continually from drinking too little water. It is especially needed for sluicing the emunctory canals—especially the kidneys, skin, and bowels—also for proper dilution of the blood, which is necessary to good circulation. It seems highly probable that death results in cholera more from the loss of water—thus making the blood too thick to circulate—than from any other cause. Next to air, water is most demanded to meet the immediate wants in the economy. For external use, it is invaluable in preserving cleanliness, and especially in removing waste matter thrown out on the skin through its millions of pores, which gives the skin a chance to properly perform its function. Cold, warm and hot water, according as they are indicated for definite effects, may be used in baths, sponging and other ways. Hot vapor baths, after the manner of the Turkish bath, are now in use domestically and do most efficient work in the prevention of disease. Every family should have an apparatus in which

to take them, and each member should indulge in the stimulating, exhilarating luxury once or twice a week, being assured that they are great promoters of good health and, of course, opposed to disease. Water, either warm or cold—in its mollifying impression on over-excitabile nerves and through its evaporative effects when applied to the skin—is a first-class antipyretic, being both safe and efficient in a high degree. Many diseases may be prevented or aborted by a timely bath, repeated if necessary; and in the treatment of actual disease—typhoid fever, for instance—it is worth more than all other remedies combined, as has been fully tested.

**BRONCHO-PNEUMONIA.**—Caillé (*Post-Graduate*) says that the great danger in this disease is suffocation, through filling up the air cells with secretion, and from heart failure and pulmonary edema. Here heart tonics and expectorants are indicated. In desperate cases raise the foot end of the bed four inches and so get gravitation of secretions toward the mouth, or make use of artificial respiration. Good results from venesection are hardly to be expected in young children. As a stimulant and heart tonic he uses camphor, strychnin or nitroglycerin, and occasionally digitalis or ammonium carbonate. You may give half a grain of camphor in five grains of sugar, or:

R Camphor. .... 15 gr.  
Ol. amygd. dulc. .... 11 ozs.  
Sig. Five m hypodermically.

Or you may give camphor ( $\frac{1}{2}$  gr.), digitalis (1 gr.), and benzoic acid (3 gr.) combined. Caffein and sodium benzoate (1 to 2 gr.) may be given hypodermically. Whiskey and water may be given if necessary. If the fever is from 105° to 106° F. and there is such twitching that convulsions are feared, antipyrin (3 to 5 gr.) may be given in water per rectum. This will reduce the fever two or three degrees for several hours. When the acute attack is over and resolution is delayed,

potassium iodid should be given by mouth or rectum. In delayed resolution, with or without fever, think of serous or purulent effusion, and use the aspirating needle to detect it.—*St. Louis Clinique*, March, 1903.

INJECTIONS OF SILVER NITRATE IN THE TREATMENT OF PULMONARY CONSUMPTION.—T. J. Mays (*Philadelphia Medical Journal*, March 14, 1903) concludes as follows: Taking a general survey of the above collection of cases, and the therapeutic results which have been obtained through them, I think it is plainly evident that the silver nitrate injections possess a decided antagonism to the pathological and complex process which we know as pulmonary consumption. It must be borne in mind, however, that, in forming an estimate of the action of a new remedy, it is comparatively easy to overrate its virtues and to ignore the efficacy of other influences that enhance its final effects. But making due allowance for such weaknesses, we have in this collection a confirmation of the results which were obtained by myself with the silver injections employed in a large number of cases more than four years ago, differing from mine in the fact that they are more forcible, because they emanate from a number of independent observers in whom the personal equation was entirely eliminated. In conclusion, I trust that this research into the clinical action of silver nitrate in the treatment of phthisis will merely be an entering wedge into this inviting field of therapeutics, and will induce many others to take up the work and develop its possibilities.

DISEASES OF THE EYE-LIDS. — Dr. C. E. Boynton (*The Medical Council*, March, 1903) offers the following suggestions:

1) In treating granular lids look for trauma, then apply carbolized ointment and massage to prevent adhesion between palpebral conjunctiva and eyeball.

2) Frogspawn-like bodies, and contagion that may be epidemic, characterize trachoma, which is to be treated surgically.

3) By application of adrenalin chloride, 1 to 5,000, we may distinguish trachomatous bodies from pupillary hypertrophy, which, by the way, is of a decidedly scarlet hue.

4) Spasm of the orbicularis consequent upon trachoma or pupillary hypertrophy is sometimes an indication for canthotomy or cathoplasty.

5) Clonic spasm of the orbicularis (nicitation) may be associated with hysteria, chorea, neurasthenia or reflex neuroses, overwork, error of refraction or the use of eserine, when the treatment should be directed to the cause.

6) Tonic spasm of the orbicularis or blepharo-spasm is caused by inflammation or a foreign body, inverted eyelash, ulcer, a decayed tooth, cerebral irritation, or anything that might cause direct irritation or a reflex.

7) For blepharitis, an ointment of ichthyol and copper sulphate, one grain of each to the drachm in white vaseline, is safe and effective.

8) For granulated lids a collyrium of witch-hazel and hydrastis, with hydrastis internally and blisters back of ears, has proved effective; also touching lids with a drop of 5 per cent. ointment of copper citrate.

9) Atropine will usually retard recovery in cases of trachoma, but should be used if there is suspicion of iritis.

10) In the treatment of eczema of the lids the writer has seen satisfactory results from the Pagenstecher ointment, and from the application of pure ichthyol as near to the edge of the lid as possible and well over surrounding parts.

THE SUPRARENAL GLAND AS A HEMOSTATIC. — No fact is more conclusively proven than the remarkable hemostatic effect of the extract and active principle of the suprarenal glands, and yet it seems strange that they should still be comparatively neglected by the profession at large. They are more effective than the salts of iron and leave behind no filthy mass of black-



ened, coagulated blood. Unlike the actual cautery, their application is painless and causes no destruction of the tissues. To sum up the virtues of the suprarenal gland as a hemostatic in a word, it is ideal. It has proved valuable in nose and throat surgery, has been employed within the uterine cavity in post-partum hemorrhage with success, has stopped persistent bleeding from rectal ulcerations and cancer, from ulcer of the stomach, from epithelioma of the tongue, from cancer of the uterus and vagina, and this may be said of every form of bleeding in which the leaking vessels are not so large as to make ligature immediately imperative. Indeed, we may well venture to term it one of the most valuable biological products that science has of late years discovered, and it is not without a certain amount of surprise that we realize how comparatively small a place it has yet assumed in that branch of emergency work which has to deal with sudden and dangerous hemorrhage, which, as we well know, so often occurs in regions and under circumstances in which direct surgical means are either unavailable or impossible to adopt.—*The Internat. Journal of Surgery*, April, 1903.

**TREATMENT OF TYPHOID.**—W. H. Thomson (*Medical Record*, March 21, 1903), in a discussion on the subject, is credited with the following: The diarrhea he believed to be due to the inability of the stomach to digest. There was no other disease which reduced the pepsin and the peptic power of the stomach to the same extent as did typhoid fever, not even cancer of the stomach. He, therefore, gave ten grains of saccharated pepsin and twenty grains of the subcarbonate of bismuth every three hours, night and day, and occasionally also gave hydrochloric acid. This, apparently, accounted for the relative absence of tympanites. He regarded tympanites as a very serious complication, and its persistence as indicative of serious intestinal ulceration. For diet he used exclusively equal parts of milk and lime-

water from the beginning to the end of the disease. In the first week it was possible, by proper management, to greatly reduce the danger of subsequent toxemia. At this time there was marked diminution in the excretion of urine, due to a condition of infection of the blood, which, if allowed to persist, would favor the rapid multiplication of the typhoid bacilli. To encourage renal secretion he gave five grains of calomel and thirty grains of the compound jalap powder every other night, and morning and evening a rectal irrigation of two or three gallons of normal saline solution at a temperature of 112° or 115° F., using for the purpose Kemp's irrigating tube. This treatment was kept up until the sixteenth or seventeenth day of the disease. Baths were given whenever the temperature passed 102.5° or 103° F. When it was found that the reaction from the cold bath was not favorable, he recommended the use of the warm bath. It would be found that frequently the warm bath gave better results, but one could not determine in advance which treatment would prove the more effective. He did not believe the warm bath produced its favorable effect by its influence on the temperature, but by its action in increasing the elimination of the toxins by the kidneys. For failure of the heart he used strychnine, but relied most upon camphor. He believed that nearly all of the cases giving a severe toxemia were examples of mixed infection, most commonly an infection with the colon bacillus.

**PHYSIOLOGIC SALT SOLUTION.**—Engelmann (*Deutsche medicin. Wochenschrift*, Jan. 22, 1903) says the term "physiologic salt solution" is very frequently employed in medical literature, meaning 0.5, 0.6, 0.7, 0.75, or 0.9 per cent. solution of sodium chloride, although most frequently the strength of the solution is said to be 0.6 per cent. In this connection the writer asks what does one understand by the designation "physiologic salt solution," and what solution of sodium chloride de-

serves this title? "Perhaps," says Hamburger in his latest textbook on the 'Osmotic Pressure and the Ion Theory,' "the name 'physiologic' is given to a 0.6 per cent. solution of sodium chloride, because that solution is so frequently used by physiologists in their manipulations with frog preparation. This solution, above all others, is indifferent to that material." It was noted by Nasse over thirty years ago that a 0.6 per cent. solution of sodium chloride was the only solution in which the frog preparation could be handled without exerting any effect on that material, it being an "indifferent" solution. The muscle of the frog placed in this solution retained its activity for a long time. Other writers, Koeppe, Loeb, Filehne, and Biberfeld, have found a solution of from 0.64 to 0.7 per cent. good for this purpose. The reason for this behavior of the "physiologic" solution was not discovered until many years later, when it was noted by Hamburger that this empiric strength—sodium chloride—was isotonic with the blood serum of the experimental animal, that it did not alter the red blood corpuscles.

It was discovered by Hamburger that only a 0.9 per cent. solution of sodium chloride is isotonic for the blood of man. It therefore demonstrates that the use of a 0.6 per cent. solution of sodium chloride for transfusion, etc., is incorrect; that a 0.9 per cent. solution should be used. The word "physiologic," as applied to a 0.6 per cent. solution, is therefore incorrect. Hamburger uses the term "physiologic" in the sense of an "indifferent" solution, or isotonic. The term physiologic should be restricted to 0.9 per cent. solutions and not the 0.6 per cent. solutions. A few writers are already calling attention to this fact, *e. g.*, Grawitz, in his *Clinical Pathology of the Blood*, 1902, gives "the so-called physiologic salt solution as 0.9 per cent." We should either drop the term or confine its use to the 0.9 per cent. solution.—*St. Louis Medical Review*, April 11, 1903.

## SELECTED PRESCRIPTIONS.

### ACUTE GOUT.—

R Ext. colocynth. comp. . . . gr. x vel xx  
Ext. hyoscyami . . . . . gr. ij  
M. et f. pil. No. iv.  
Sig. One as soon as threatened by an attack.  
—HARE.

### HYSTERIA.—

R Camphor. monobrom.  
Ext. valerian. . . . . aa 3.0  
M. et f. pil. No. xxx.  
Obduc. fol. argent.  
Sig. 1 pill t. i. d. —KRAFFT-EBING.

### CHRONIC PROSTATITIS.—

R Iod. pur. . . . . 0.05  
Kali iodat. . . . . 2.0  
Ext. belladonn. . . . . 0.15  
Butyr. cacao, q. s. ut ft. suppos. No. x.  
Sig. One suppository morning and night.  
—NEUMANN.

### CERUMEN.—

R Natr. carbonic. . . . . 0.5  
Aq. destill. . . . .  
Glycerin. . . . . aa 5.0  
M. Sig. Ten drops into ear t. i. d.  
—POLITZER.

### LARYNGISMUS STRIDULUS.—

R Chloral. hydrat. . . . . 0.1—0.5  
Aq. font. . . . .  
Syr. rubi idæi . . . . . aa 20.0  
M. Sig. Teaspoonful three to four times daily.  
—WIDERHOFER.

### PHLEGMON.—

R Alum. crud. . . . . 8.0  
Plumbi acet. . . . . 40.0  
Aq. font. . . . . 400.0  
M. Sig. Apply. —ALBERT.

### DIARRHEA.—

R Bismuthi subnitratiss,  
Cretæ præcipitatæ . . . . . aa 3 ss  
Pulveris opii . . . . . gr. j  
M. Div. in pulv. No. x. —J. LEWIS SMITH.

### DIABETES MELLITUS.—

R Antipyrini . . . . . 3 iij  
Glycerini . . . . . 3 i  
Aque . . . . . 3 viii  
M. Sig. 3 i q. 3 h. —JOSIAS.

### HEMICRANIA.—

R Caffeinæ . . . . . gr. vii  
Acid. hydrochlor. . . . . m ii  
Syr. aurant. flor. . . . . 3 ss  
Aq. destill. . . . . 3 iij  
M. Sig. Tablespoonful every hour or two, as required.  
—BEASLEY.



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## Original Articles.

### SCIATICA :

#### ITS DIFFERENTIAL DIAGNOSIS AND TREATMENT.

By ISADORE COHN, M. D., New York City.

Since the treatment of any diseased condition depends for its success upon a knowledge of the etiological factors productive of the condition, it will not, I believe, be amiss in this article to refer to some of the causes and conditions which produce sciatica.

Sciatica is distinctly a disease of middle or advanced life. Prior to the age of early manhood sciatica is one of the most infrequent of all forms of neuralgia.

The ordinary predisposing causes of neuralgia have comparatively little influence on the development of sciatica. The neuropathic influence, anemia, and other conditions of exhaustion have less effect on its production than in the other neuralgias. The patients are often in perfect health on the onset of the attack.

The disease has long been supposed to be intimately related to rheumatism, and while it is true that many of the patients suffer with muscular rheumatism, and that sciatica not infrequently begins with an attack of lumbago, the fact of such connection is by no means well established.

Infectious diseases, syphilis, malaria, typhoid, and diphtheria, are infrequent causes; lead and mercury poisoning, too, are rare causes of sciatica.

Sciatica is seen sometimes in diabetic subjects, and then it is usually bilateral. In rare cases sciatica is the result of reflex

irritation. It may accompany affections of the bladder, uterus, testicles, epididymus, stricture of the urethra, and intestinal worms.

We find, however, the cause of sciatica to be mainly of external origin: muscular effort, such as accompanies certain occupations—the lifting of weights, working at machines; exposure to draughts, sleeping near an open window; trauma—the result of blows, falls, gunshot wounds.

Under this head, too, may be included those cases resulting from pressure due to local processes in any part of the course of the nerve, from its spinal origin to its terminal branches on the outer side of the foot, such as spondylitis deformans, cancer of the vertebrae, neuromata within the spinal canal, intrapelvic tumors, cancer of the rectum, hemorrhoids, varicose veins, use of forceps during delivery, exudations into the broad ligament, pressure of popliteal aneurism, neuromata and tumors of the adjacent parts.

But when all is said we meet with not a few cases in which the most patient examination fails to reveal the cause of the malady.

*The symptoms of sciatica.* Sciatica is often preceded by prodromal manifestations, the patients complaining of abnormal sensations in the skin—a tingling, a feeling of heat or cold, or formication. These paræsthesiæ are often present though tactile sensibility is not affected.

While the onset may be sudden, the acute pain is not usually complained of at first. As above mentioned, sciatica is often preceded by lumbago; the pain, gradually spreading to the upper and backpart of the thigh, loses its myalgic character and becomes sharp and paroxys-

mal. The limb often assumes a characteristic position; the thigh is flexed upon the abdomen and the leg upon the thigh. This position is assumed even when the patient is lying down, and the foot usually rests upon its fellow. In walking the patient favors the affected side; he moves very gingerly, avoiding all strain on that side. The heel is raised from the ground, the patient walking on the toes.

In long-continued or in very severe cases a marked spinal deformity is produced (zaniboni). This deformity is characterized by a rotation of the trunk in such a way that the costal margin of the affected side approaches the crest of the ilium, with lateral curvature in the lumbar region of the spinal column, convexity toward the affected side. The deformity is present in all positions the patient may assume, and does not disappear during sleep. Under anesthesia the position is somewhat relaxed, showing that it is assumed as the position in which the pain is the least.

The pain, which is acute and agonizing, is at one time continuous, at another paroxysmal, the paroxysms recurring at irregular intervals. The pain is most severe in the back of thigh and region of the hip; the patients almost invariably point directly to sciatic notch and along the course of the nerve, down the middle of thigh and outer surface of leg. The motor symptoms consist of a paresis and spasm of the muscles of the limb, and after a time, in the severe and prolonged cases, we have an atrophy due to disuse.

So much for the etiology and symptomatology of sciatica. We must not, however, rest contented with having made a diagnosis of sciatica, but must endeavor to find the cause of the attack; we must enquire into the patient's history and make careful examinations of the adjacent organs; in females a vaginal and bimanual examination, and a rectal examination in all cases, will often clear up what at first appears a very obscure case.

Sciatica differs from other neuralgias in

the fact that there are usually prolonged and constant pain and tenderness along the whole course of the nerve and not confined to the *puncta dolorosa*.

There are several conditions which we should eliminate before we decide that the case in hand is one of sciatica. The most important of these are:

1. *Rheumatoid arthritis of the hip*. This offers the most difficulty in differential diagnosis. Jonathan Hutchinson goes so far as to claim that nine-tenths of all so-called chronic cases of sciatica are really rheumatoid arthritis. However, in arthritis the pain is not so severe, it is not confined to the distribution of the sciatic nerve, and we have equal pains along the crural and especially along the genito-crural nerve. The pain is more diffuse.
2. *Tabes dorsalis*. This must be thought of particularly, when the case is bilateral. Examine the pupillary reaction and test the knee jerks in all cases of sciatica.

3. *Diabetes* is sometimes the etiological factor of the disease; therefore examine the urine of all patients with sciatica. A temporary glycosuria has been reported during the course of sciatica.

4. *Hysterical hip disease* (Brodies Joint). Here the age of the patient will often help us. Hysterical hip disease usually occurs in young women who give other manifestations of a neuralgic temperament; the fact that there is hyperesthesia with more tenderness and of a more diffuse character, especially on slight pressure, whereas deep uniform compression is often grateful to the patient, will help one to differentiate between the two conditions.

5. *Pelvic Tumors*. These should be excluded by a carefully conducted bimanual, aided often by rectal, examination.

6. *Carcinoma of the rectum* can be excluded by the history and by a digital or proctoscopic examination.

7. *Hemorrhoids and varicose veins* pressing on the nerve are easily diagnosed.



8. *Affections of the hip joint* are usually easily distinguished by (a) absence of tenderness along the course of the nerve; (b) limitation in motion of the hip joint.

9. The *multiple neuritis of alcohol* occasionally attacks the sciatic nerve, but the condition is easily differentiated from true sciatica.

10. *Herpes Zoster* along the course of the nerve, a rare condition, may be preceded by neuralgic pains, but the appearance of the eruption clears up the diagnosis.

I repeat that, if you make it a rule to examine the pupillary reaction, test the knee jerks, examine the urine for sugar in all cases, that, if you make careful rectal examinations, examine women for pelvic tumors or exudates, you will be relieved of much anxiety as to the true diagnosis of the case in hand.

As in all diseases which exhibit a tendency to run an obstinate or chronic course, the number of remedies for the relief of sciatica is legion. We must begin by trying to ascertain the cause, if possible, of the attack and treat that by anti-syphilitic, antirheumatic, or antimalarial remedies; if it be due to pressure of the adjoining parts we must remove the cause, if possible, or at least treat the cause; but in the majority of cases we employ purely empirical treatment. This divides itself into (a) medical and (b) surgical. Among the most satisfactory measures for the relief of this condition I would enumerate the thermo-cautery as the best. One is often very agreeably surprised at the almost miraculous effect produced by this measure. Patients who are barely able to walk when they present themselves for treatment will often, after the application of the cautery, walk out of the room with an air of contentment and satisfaction.

Among other measures electricity (galvanism) often gives good results. Place the anode over the sacrum or lower lumbar vertebræ and the cathode to the *puncta dolorosa* (painful spots) or to the region

over the sciatic foramen, between the trochantis major and the ischium, or in the popliteal space, apply current here for a few minutes, then move the anode to where the cathode was and the cathode to the next lower point.

Strychnine in fairly large doses is often of benefit. Hot sitz baths, local irritation by blisters and massage often give much relief. Weir Mitchell orders complete rest and immobilization of the affected limb.

The internal administration of salol and quinine, or salol alone, often relieves.

The subcutaneous injections of ether, cocaine, nitroglycerin, antipyrin, chloroform, distilled water, all have been tried with more or less success.

The subcutaneous use of morphine, which is often necessary to relieve the great suffering, should be used with great caution, as here, as in all chronic neuralgic processes, the danger of the morphine habit is to be thought of.

The chloride of ethyl spray along the course of the nerve has been used with varying success. The surgical treatment of sciatica consists of the stretching—subcutaneous or open—resection of varicose veins, acupuncture, and even excision of part of the nerve.

In the subcutaneous stretching the thigh is forcibly flexed upon the abdomen while the leg is kept in full extension. It is without danger and should be tried in every case.

The open operation, too, is devoid of any danger and may be tried when other therapeutic measures fail, leaving the excision of part of the nerve as a *dernier resort*.

#### CYSTITIS.—

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M. Sig. Dessertspoonful in glassful of water three times daily.

—*Medico-Pharm. Critic and Guide.*

## PROPHYLACTIC TREATMENT OF THE EYES IN THE NEW-BORN.\*

By HUGO EHRENFEST, M.D., St. Louis.

The distinct value of a prophylactic treatment of the eyes of the new-born baby in the prevention of ophthalmoblenorrhoea is to-day fully established and hardly needs further corroboration. There are but two questions still open for discussion; first, which of the various applications in use is the most reliable; second, should such prophylactic treatment be applied in every case.

It is the object of this paper to consider briefly these two points in the light of recent literature.

The application of one drop of a 2 per cent. solution of argentinum nitricum, as first advocated by Credé in 1880, was, and in all probability still is, the most widely used mode of prophylaxis. Its efficacy was for the first time convincingly proved by Haab<sup>1</sup> in a compilation of the results in the largest maternities of Europe. While without any preventative measures ophthalmia developed in fully 9 per cent. of 42,000 cases, in 10,000 cases in which the Credé method had been applied, ophthalmia occurred in but 1 per cent. of the babies. I think it can be safely asserted that the percentage at present has been reduced to less than one-half of 1 per cent. In a recently published paper Professor Leopold,<sup>2</sup> of Dresden, states emphatically that ophthalmoblenorrhoea can be positively avoided in the new-born if Credé's treatment is carried out exactly in accord with his rules. The use of the original Credé method, that is, the employment of a 2 per cent. solution of nitrate of silver, is recommended in almost all the American and German text-books of obstetrics.

In marked isolation in modern literature stands D. S. Reynolds,<sup>3</sup> who concludes an article, published in 1900 in the *Journal of*

*the American Medical Association*, as follows: "Ophthalmia is always the result of a contagion, very rarely, if ever, occurring in the process of delivery, the infecting agent being introduced either at the time of attempting to practice the Credé method, etc." He continued: "The irrational method of Credé and others, who have advocated the use of a 2 per cent. solution of nitrate of silver or other similarly strong solutions of bichloride of mercury, formalin, etc., cannot be too strongly condemned, as they cannot prevent the ordinary sources of infection."

Statements of this kind, published in a paper recognized by the profession, are liable to do vast harm. They are not based on any facts, save the one that the writer is not abreast with the modern literature on this subject.

The motive for numerous attempts to improve the Credé method may be found not so much in the experience that it fails in rare instances, as in the frequency of undesired by-effects accompanying the method.

The 2 per cent. solution produces in a certain percentage of cases considerable irritation, which, although in itself free from danger, may prove very disagreeable especially in private practice.

The use of solutions which have been exposed to light and are partly decomposed, is in all probability responsible for a great number of the more severe cases of irritation. The strikingly large number of inflammations subsequent to the employment of a 2 per cent. solution, as reported by Cramer,<sup>4</sup> was justly explained by Leopold as due to the technic of Cramer who did not carry out Credé's precept. Leopold demonstrates the fact that, whenever Credé's rules are strictly obeyed, the frequency and intensity of irritation are factors hardly worthy of consideration.

Severe injuries to the cornea, as ulcerations or opacities, have to my knowledge never been observed after a single application of one drop of a 2 per cent. solution of silver nitrate. Instances in which the

\* Read before the St. Louis Medical Society, February 14, 1903.—Reprint from the *St. Louis Medical Review*, April 25, 1903.



blame was first placed on the Credé method have later met with other explanations. Thus, *e. g.*, in a case of this kind, mentioned quite recently by Klotz,<sup>8</sup> it was found that the druggist by mistake had dispensed a 20 per cent. instead of a 2 per cent. solution.

There are several cases recorded of hemorrhages following the application of solutions of silver nitrate into the eyes, in four of which the hemorrhage was fatal. In only one case, however, the Credé method is partly responsible for the outcome. In this case the application of one drop of a 1 per cent. solution was repeated after the lapse of several hours. I am in the unpleasant position of having to place another instance of this most rare and most unfortunate complication on record, in which one drop of a 2 per cent. solution was administered. It is the case to night described in all its details by Dr. Wiener.

Among the substitutes advocated in the place of the original 2 per cent. solution I will first mention the 1 per cent. solution of the nitrate of silver. It was highly recommended by Gusserow, and it is at present widely used in Germany. It proved satisfactory as regards its prophylactic properties, as recently stated by Leopold, and is less irritating. E. Ruge<sup>9</sup> gives the following results as observed in 928 consecutive cases: No early infection; in but one instance a late infection, the first symptoms appearing in the beginning of the second week after confinement. Worthy of special mention is the fact that he found that from 20 to 25 per cent. of the mothers of these babies were suffering from gonorrhea.

In order to avoid undesirable effects from the use of a too concentrated solution, Zweifel<sup>7</sup> conceived the ingenious idea of searching for a silver preparation the concentrated solution of which would be still free from danger. He found it in the acetate of silver, which possesses the same disinfectant properties as the nitrate of silver, but does not dissolve in water in a higher percentage than 1.02. He used

this preparation in 5,222 cases and observed ophthalmia in twelve instances, *i. e.*, in 0.23 of 1 per cent. He could, however, not entirely avoid irritation until he began to neutralize the superfluous acetate of silver with a saline solution. This method suggested itself by the following reasoning: A 2 per cent. solution of nitrate of silver does not produce any noteworthy irritation in the eyes of an adult. Its quite different action in the eyes of the newborn could be explained by the lack of secretion of tears during the first few weeks of life. Tears contain a considerable amount of sodium chloride, which transforms the superfluous quantity of the silver into the non-irritating silver chloride. The use of the acetate of silver followed by an instillation of a weak salt solution yielded to Zweifel results which were satisfactory in every respect. A paper just published by Scipiades<sup>9</sup> approves fully of the advantages of the acetate of silver, but takes exception, however, to the claim of Zweifel regarding the beneficial effect of the saline solution.

Of all the other silver preparations protargol is the one most carefully studied in its prophylactic efficacy as regards ophthalmia neonatorum. It was first applied by Darier,<sup>9</sup> later by Engelmann,<sup>10</sup> in a 20 per cent. solution. In this strength protargol showed the desired prophylactic effect, but led, however, in the hands of other authorities to a great number of very severe irritations. Zweifel<sup>7</sup> therefore antagonized its use in this concentration and applied a 2 per cent. solution, which soon had to be discarded as unreliable in its disinfectant quality. Very encouraging sounds the report of Piotrowski<sup>11</sup> on the 10 per cent. solution of protargol. He used it in 1,030 cases, in none of which ophthalmia developed. Irritation was observed in but 10 per cent. of the cases, which, however, never lasted longer than three days. His technic is as follows: Immediately after confinement the eyelids are washed with a 3 per cent. solution of boracic acid, and then a 10 per cent. solu-

tion of protargol is freely instilled into the conjunctival sac.

It might be mentioned in this connection that in the new text-book of obstetrics, edited by Reynolds and Newell,<sup>12</sup> as the only prophylactic a 2 to 4 per cent. solution of protargol is recommended.

Besides various silver preparations, among which of late argyrol finds some strong advocates, a great number of other antiseptics have been used for this purpose. I will but mention boracic acid, formalin, bichloride of mercury, permanganate of potassium, carbolic and salicylic acid, and others. The scope of this paper does not permit of entering here into a detailed discussion of the experience of the different authors. Those interested will find the literature mentioned in the papers of Cohn, Zweifel,<sup>7</sup> Pinard,<sup>13</sup> and Scipiadès.<sup>8</sup> Almost all of these antiseptics have been found second to the nitrate of silver in their ability to prevent ophthalmia in the new-born. Some authorities combine several antiseptics; thus in the hands of Vallois,<sup>14</sup> the new-born baby has to undergo the following somewhat cumbersome procedure: The eyes are washed with boiled water, dried with cotton; then a drop of a 2 per cent. solution of nitrate of silver is brought into the conjunctival sac, which is followed by an instillation of lemon juice; finally iodoform powder is insufflated into the eye.

Ahlfeld, to whom we owe the most painstaking investigations of the disinfectant power of alcohol, applied 70 per cent. alcohol as a prophylactic to the eyes of the new-born. Koenig<sup>15</sup> reports the results obtained with this procedure. The percentage of ophthalmia was about the same as after the use of nitrate of silver; the disease appeared, however, in a milder form. Irritations were observed, but never severe types. Higher concentration of alcohol was not well borne.

Schirmer<sup>16</sup> limited the prophylaxis to a careful cleansing of the eyes and the whole body of the new-born infant. As Zweifel mentions, at first it seemed as if

Schirmer's suggestion would be feasible, but soon it proved absolutely unreliable and had to be discontinued.

The advice given by some writers to confine prophylaxis to careful cleansing of the eyes and hands of the new-born is founded on the presumption that the infection of the conjunctiva does not occur during but immediately after delivery, the gonococci being introduced into the eyes either from the lids or the hands of the infant. In my opinion two facts speak strongly against the propriety of such a "prophylaxis." First, it is not compatible with our modern understanding of disinfection to assume that simple washing with water would be capable of thoroughly removing all gonococci from the hands, the lids, and especially from the eyelashes of the baby; secondly, the assumption that the infection takes place after the expulsion of the child is unwarranted. Cases in which the first symptoms of inflammation appear a few hours after confinement are not so extremely rare; they make an earlier infection quite probable. The possibility of an infection of the eye even days before delivery is convincingly proven by several cases recorded in literature, in which babies were born with a fully developed ophthalmia with extensive ulcerations and even perforation of the cornea (Friedenwald).<sup>17</sup> Such early infection is, of course, easily accounted for in cases of premature rupture of the membranes, which may precede confinement several days.

Repeated douches of the vagina during labor with an antiseptic solution, as first advocated by Kuestner, have been found unreliable in the prevention of ophthalmia, and are, besides, contra-indicated in the light of modern research from the standpoint of the obstetrician as interfering with the process of auto-disinfection of the vagina. Zweifel mentions explicitly in his paper that in his two cases of ophthalmia observed in spite of the use of acetate of silver the vagina of the mother was not only douched but carefully



scrubbed out with a bichloride solution, according to the advice of Hofmeier.

Concluding the discussion of the first question regarding the most reliable prophylactics of ophthalmia neonatorum, I would say that at present the 1 per cent. solutions of both the nitrate and the acetate of silver and the 10 per cent. solution of protargol are the most favored.

We will concern ourselves now with the second question, whether the prophylactic application should be applied in every case.

We demonstrated in the foregoing that by an obligate use of the prophylaxis in maternities the percentage of ophthalmia neonatorum has been reduced from nine to less than one-half of 1 per cent.; that in the opinion of recognized authorities this disease could be positively eliminated by a strict application of a proper prophylaxis in every case. We do not find this exceedingly satisfactory experience, gained in hospitals and maternities, duplicated in the results of general practice. German statistics show that since the introduction of the Credé method the percentage of blindness due to ophthalmoblennorrhea in the new-born has decreased 8 per cent., having sunken from 28 to 20 per cent. Zweifel directs the attention of the profession to the following fact: In the maternity of the University of Leipzig about 1,500 babies are born annually, one or two of which will develop on ophthalmia. The whole number of births per annum is for the city of Leipzig about 15,000, nevertheless the eye-clinic of the university alone attends annually approximately 100 ophthalmia cases in charity patients.

Such statistics prove unimpeachably that in private practice there exists an inexcusable negligence as regards the proper care of the eyes of the new-born.

The natural outcome of observations of this character, which began to be recorded but a few years after the introduction of the Credé method, was a strong agitation in favor of legislation requiring the compulsory use of the method. The agitation

was supported by the oculists, antagonized by the obstetricians, and never led to the desired goal. The comparison with the splendid results of vaccination, an argument often used by its supporters, could not be sustained, since a possibility of contracting smallpox exists for every individual, of developing an ophthalmoblennorrhea only for the baby whose mother or father is suffering from gonorrhea. Legislation for the compulsory use of the Credé method would necessarily compel every midwife or nurse attending obstetrical cases to make such applications to the eyes of the new-born, and such a practice would unavoidably lead to undesirable complications.

Therefore other means were adopted in order to evade the dreadful results of this disease. There is a general consensus of opinion among oculists that the eye can be saved with little or no injury, if the proper therapeutics be instituted at an early stage of the affection.

So soon as 1882, that is two years after Credé's first publications had appeared, the Austrian government recommended officially to all physicians an extensive use of the Credé method, and Section VII of the "Directions for Midwives" of Austria directed the midwife to call in a physician, if she observed symptoms of an ophthalmia in a new-born child. The regulations for midwives and nurses of many other European states contain similar directions.

The United States, however, have the just claim first to have passed laws forcing midwives and nurses to report such cases.

It is largely, or solely, due to the untiring efforts of Dr. Lucien Howe, of Buffalo, that the New York state legislature passed in 1890 a law, making it punishable as a felony, if a midwife or nurse, or any other person having the care of an infant within the age of two weeks, should fail to report immediately to the health officer, if one or both eyes of such infant are inflamed or reddened.

Identical laws were passed in 1891 in the state of Maine; in 1892 in Rhode Island, in 1893 in Minnesota. In the same year a committee was appointed by the American Medical Association to secure such legislation throughout the United States. To-day twelve of the states, aggregating a population of approximately thirty-five million inhabitants, are in the possession of this law. Considering the wisdom, the humanity of such a law, one cannot but be surprised that there does not seem any real intention on the part of the proper authorities to enforce it. This law for the prevention of blindness was passed in the state of Missouri in 1895. There was never any conviction, and, so far as my information goes, never any prosecution based on this law. There was never a report of a case of ophthalmia made by a midwife or nurse to the health officer of St. Louis.

In Europe, to my knowledge, no laws of this nature are in existence. I am at least inclined to believe so, because I find in the literature of the past few years several articles advocating such legislation and pointing with envy to the advanced position of the United States in this matter. (Mohr<sup>11</sup> and others.)

There cannot be any doubt that the strict enforcement of this law would bring a great number of ophthalmia cases under proper care at the right time, and would be capable of reducing greatly the number of blind.

Our main effort, however, must be to prevent the disease. The splendid results of the maternities point the way clearly. Widest use must be made of the prophylactic treatment of the eyes of the new-born.

It is an absolute necessity for every physician to practice Credé's or a similar method, if the mother or father of the new-born are suffering from gonorrhea, if the mother has a purulent discharge or condylomata, if a previously born baby has developed an ophthalmoblennorrhea; it is a duty to apply this method rigidly in

maternities and all suspicious cases; it is advisable to use prophylactic measures in every case.

Since a considerable percentage of confinements are attended by midwives and nurses, it is desirable that the schools of midwifery and training schools for nurses instruct their pupils in the technic of the Credé method and advise them to use such prophylactic applications to the eyes of the new-born, if possible, in every case.

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#### PROPHYLACTIC INJECTIONS OF TETANUS ANTITOXIN IN CASES OF WOUNDS FROM TOY PISTOLS.\*

By FIELDING LEWIS TAYLOR, M. D.,  
Surgeon to the Outpatient Department of the Hudson  
Street Hospital, New York.

It is difficult to establish the value of prophylactic injections of the antitoxin of tetanus in man. Tetanus is a relatively rare disease in human beings, when the great number of wounds contaminated with the refuse from stables, the dust of the streets and the like is taken into consideration. From the fact that but very few cases have developed among those injected with prophylactic doses we cannot properly conclude anything, even though tetanus was epidemic in the locality at the time, unless a very large number of cases have been so treated.

\* Reprinted from *New York Medical Journal* and *Philadelphia Medical Journal*, June 27, 1903.



My interest was first aroused by the remarkable results obtained by Nocard in animals from 1895 to 1897. These I have fully transcribed in a former paper.\* As tetanus was to a certain extent epidemic in New York City in 1899, particularly in boys who had received wounds from the wads of toy pistols, I looked into the subject to find out whether the occurrence of this disease could be prevented. I think that I have been in a measure successful, as I have had but one case of tetanus develop out of 129 cases of wounds from the wads of toy pistols occurring in the outpatient department of the Hudson Street Hospital in the last three years. Of course it may be argued that tetanus was of more frequent occurrence during 1899 than during the subsequent years. I will grant that, but the daily papers have by no means been free from accounts of death from tetanus due to toy pistols in the last three years. It has even been urged by more than one writer that the sale of these toys should be forbidden, and legislative action has been seriously considered.

In looking up the literature of this subject, in 1899, my attention was attracted to a paper by Bazy.† From April, 1894, to May, 1895, he had four cases develop in his ward. Three followed severe traumatism, one was a case of so-called spontaneous or idiopathic tetanus. From that period he applied preventive treatment to all cases of wounds which were admitted to his service. He made twenty-one preventive inoculations of 10 cubic centimetres each. None of these patients developed tetanus, although, he says, their wounds belonged to that category which causes most cases of the disease. The number of his cases was entirely too small to lead to any conclusion in regard to the value of this remedy when used prophylactically, still it appeared to me well worth a trial in a class of wounds partic-

ularly liable to produce the disease, viz., wounds from the wads of toy pistols.

In my former paper I reported that I had used prophylactic injections of from 4 cubic centimetres to 10 cubic centimetres each in fourteen cases of such wounds occurring in my service at the Hudson Street Hospital during the summer of 1900, and that I had not used them in thirteen such cases. One of the latter patients developed fatal tetanus. I stated in my paper that I did not think that the local treatment of the wound in that case was so thorough as it should have been. The same observation may likewise possibly apply to some of those that received prophylactic injections. Since the summer of 1900 I have continued to use such injections in the majority of these wounds. During 1901, doses of 10 cubic centimetres each of tetanus antitoxin were administered to thirty-four patients with toy pistol wounds. During 1902, twenty-two such patients received prophylactic injections, the usual dose being 10 cubic centimetres, while forty were not injected. So far this year (April 23, 1903) two have received prophylactic injections, while four have not received them.

Counting the cases previously reported, there are then seventy-two patients who got prophylactic injections, while fifty-seven did not get them. So far as we have been able to learn, there was only the one case of tetanus, previously reported by me,\* among the entire one hundred and twenty-nine.

Whether any one of the seventy-two patients who received injections would have developed tetanus otherwise cannot be said. How much success, if success is granted, was due to thorough local treatment, and how much to prophylactic injections, I do not know. Suffice it to say that we seem to have got rid of tetanus in this class of wounds at the Hudson Street Hospital.

While I do not think that anything defi-

\* Some Remarks on Tetanus. *New York Medical Journal*, July 20, 1901.

† Bazy: De la sérothérapie dans le tétanos. *Bulletins et mémoires de la Société de chirurgie de Paris*, 1896, N. S., xxii, 186, 191.

\* Some Remarks on Tetanus. *New York Medical Journal*, July 20, 1901.

nite can be said regarding the value of prophylactic injections from such a small number of cases, I shall use them in all cases in which the wound has not been thoroughly opened and cleansed within a short time after its infliction. I have caused all such wounds to be freely and deeply incised and curetted, and then to be swabbed out with pure carbolic, its action being limited with alcohol when deemed advisable.

Nocard used two injections of 10 cubic centimetres each at an interval of ten days in animals. In human beings it has been advised to repeat the injection once or twice at an interval of three or four days, particularly if the wound does not become healthy, as Vaillard and Rouget† have shown that symbiosis is essential to the elaboration of tetanus toxin.

The same pains in the joints and rashes that sometimes follow the exhibition of the antitoxin of diphtheria may occur after the use of tetanus antitoxin; they are transitory and usually cause but slight inconvenience.

This subject received considerable attention at a recent meeting of the French Congress of Surgery, October 20 to 25, 1902.\* M. Villas (Lyon) said that preventive serumtherapy in tetanus possessed certainty of action, and that, if it were systematically employed to all wounds, tetanus would disappear from human pathology just as smallpox in the presence of vaccination. He considers that the preventive treatment is indicated when one encounters a suspicious wound, that is, a contused, irregular wound, soiled with earth or foreign matter. Neglect of such treatment he considers very wrong, and thinks that efforts should be made to cause the danger of tetanus in such wounds to be more thoroughly recognized. These views received the most enthusiastic endorsement of those who spoke on the subject.

\* *Revue de chirurgie*, 1902, xxvi, p. 632.

† Vaillard and Rouget, *Annales de l'Institut Pasteur*, June, 1892, p. 384.

## THE THERAPEUTIC NOTES.

In eight cases of pneumonia in infancy treated with antipneumococcic serum, J. L. Morse found that the duration and course of the disease were practically uninfluenced.

Nasal intubation with soft rubber tubes has recently been successfully applied by Northrup for pharyngeal croup.

Hasland claims that the administration of arsenite of copper in tablets of  $\frac{1}{100}$  gr. mitigates all the symptoms of typhoid fever.

Dermatol has been found serviceable in dysentery, intestinal dyspepsia and fermentation, and summer diarrhea.

J. D. Hunter recommends fifteen drops of lactic acid every two hours for acute or subacute dysentery with green, viscid stools.

For vulvo-vaginitis of children a two-per-cent. protargol ointment is recommended by Bandler as an external application.

Camphor monobromate is a useful aphrodisiac.

Inhalation of an amyl nitrite pearl will sometimes cut short an attack of angina pectoris or spasmodic asthma.

For the pain of acute epididymitis try the cautery, pure guaiacol, or ten-per-cent. solution of silver nitrate.

In nasal surgery the local use of eucaine-B is serviceable in those having a cocaine idiosyncrasy.

Rhubarb, ipecac and podophyllin prove a good combination in functional disturbance of the liver.

A firm strapping of the chest will sometimes afford greater relief in pleuritis sicca than other means.



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## Editorial.

IT SEEMS INCREDIBLE that, after a comparison of the frequency of ophthalmia neonatorum in the days before proper prophylaxis was instituted, and of that since CRÉDÉ advocated the instillation of silver nitrate into the eyes of *all* new-born children, irrespective of previous history or the condition of the genital tract, it seems incredible that, after all this, there should be physicians who consider the method inert or who resort to its application only in positive or suspected cases of gonorrhea. Were the instillations carried out only in the face of positive local signs of gonorrhea of the female genitalia, it is certain that the number of cases of ophthalmia neonatorum would be appalling. The entire subject of prophylaxis of the eyes in the new-born is of such vast importance that we have reprinted in this number an article by Dr. HUGO EHRENFEST, of St. Louis. In this contribution the author enters into the spirit of the subject, quoting statistics and authorities to substantiate the claims of CRÉDÉ.

This method should be universally applied by all those practicing midwifery.

TO SOME, THE TERM SCIATICA at once conveys a definite pathological lesion—a neuritis of the crural trunk or its branches,

while to others it simply means a vague myalgic, neuralgic, or rheumatic pain situated along the course of the nerve and its area of distribution. Like pleurodynia, a great many sins are committed in the name of sciatica. To make a diagnosis of sciatica, without a thorough history and examination of the patient, will frequently lead to grave errors. In a paper on the differential diagnosis and treatment of this condition, Dr. ISADORE COHN has tabulated the several conditions which must be excluded before a diagnosis of sciatica, as we usually understand it, can be established. It is a matter of common experience for instances of tabes dorsalis, carcinoma of the rectum or of female genitalia, or diabetes, to be treated for neuralgic sciatica for a considerable period, and this because a symptomatic diagnosis is generally made. A symptom which may have for its etiological basis so varied an array of factors is well worth careful study and attention, for in such conditions above all others, the rule applies that "*qui bene diagnoscit, bene curat.*"

WE REPRINT IN this number a timely contribution by Dr. FIELDING LEWIS TAYLOR on the subject of prophylactic injections of tetanus antitoxin in cases of wounds from toy pistols. The approach of the fourth of July is always an occasion for the discussion in medical and lay journals of the toy pistol and blank cartridge in their relation to the development of tetanus. This year discussion has been particularly rife. The fact that the causative agent of the disease is anaërobic would seem to offer some solution to the problem, a solution which lies in "a thorough opening and cleansing of the wound within a short time after its infliction." A free opening with its access of oxygen would inhibit, if it would not prevent, the growth of the bacilli. Were all wounds from toy pistols treated in the lines laid down in the paper, the need for prophylactic injections would be very much reduced.

## Current Literature.

INFANTILE CONVULSIONS.—Adah McMahan (*N. Y. Medical Journal*, March 14, 1903) writes: The treatment of infantile convulsions resolves itself into (1) the treatment of the convulsion, (2) the removal of the exciting cause or causes in the given case, (3) the prevention of any known cause again acting as an irritant, and (4) the strengthening of the infant's unstable nervous system.

When called for the first time to an infant in convulsions, a few whiffs of chloroform will insure sufficient relaxation to permit of a general examination, including the taking of the rectal temperature, and also the history of the case. Should the diagnosis point to a direct irritation of the cortical cells, as in certain cerebral and spinal diseases, then that condition will demand the bromides, effective elimination, and a room kept darkened, well ventilated, and quiet, together with proper nourishment. Surgical interference may be needed. However, should one of the so-called reflex irritations be at fault, such as from improper food, foreign bodies in the nose and ears, adherent prepuce or clitoris, or dentition (a very rare cause), correct these as soon as possible.

To secure sufficient obtunding of cortical sensibilities during the spasm, use morphine,  $\frac{1}{10}$  of a grain, hypodermically, repeated in one to two hours, or chloral, 3 to 8 grains to 4 ounces of warm milk, thrown into the rectum, and chloroform. Each and all can be used to advantage. In addition, if there is a rectal temperature of  $102.5^{\circ}$  to  $104^{\circ}$  F., a warm pack with ice to the head will be of much value. The pyrexia in itself may serve as an irritation in prolonging or causing the spasm. Should the rectal temperature reach  $105^{\circ}$  to  $107^{\circ}$  F., the cold or ice pack, with ice to the head and at times heat to the feet will be required. The pack, warm or cold, will (1) reduce the pyrexia, (2) increase peripheral circulation, (3) lessen

the rigidity, and (4) assist in elimination—and also permit, in cases of overeating and acute indigestion, without much disturbance to the child, of the giving of stomachic or intestinal lavage. Where lavage is impracticable, syrup of ipecac, 1 drachm, or apomorphine,  $\frac{1}{4}$ , to  $\frac{1}{2}$ , of a grain, will be of service. If stimulation is required stimulate freely. Whiskey, per rectum, in warm milk or water, and nitroglycerine,  $\frac{1}{100}$  of a grain; strychnine,  $\frac{1}{100}$  of a grain; adrenalin chloride, and ether—each or all hypodermically—will tide over some of the most desperate cases. Ordinarily they are not needed. Oxygen is of much value in oncoming asphyxia. Saline infusions are of value where there has been a large drain from the system, as in dysentery or cholera infantum.

Should an acute toxemia exist, the above-mentioned methods are no bar to the treatment of the acute exanthemata pneumonia, scarlatina, secondary meningitis, and the acute infectious intestinal diseases.

While the infant is still in the pack, should an ileocolitis exist, the large copious enemata can be given; if there is much tympany, add to them a carminative, especially milk of asafetida, or keep in place the rectal tube.

While the child is in the pack, watch the temperature closely. Remove the pack when it falls to  $101^{\circ}$  F. (rectal), again applying it when indicated.

At times the toxemia is one of a low degree, as in malnutrition and rickets. Here the disturbance shows itself in certain groups of the muscles as infantile vertigo, carpopedal spasms, and laryngismus stridulus. In proper feedings and good hygienic surroundings, with or without some of the motor depressants, we have some means of relief.

CARE OF CHILDREN.—B. F. Hart (*St. Louis Courier of Medicine*, March, 1903), in an article on Preventive Medicine, says: Their food should be nourishing and simple, not too often repeated, and consist of fruits, vegetables, and cereal prod-

ucts mostly. Their sleep should be long and restful, on a hard bed, without pillow, each by himself if possible, with good ventilation and frequent baths, and clothing adapted to the season, watchful care being extended to prevent undue exposure; and thus the little fellow will have started out on life's journey under favorable auspices. On the approach of school age the child is verging on dangerous ground as regards health, owing to the over-solicitousness of parents and teachers about his mental progress. It is dangerous to children, in a healthy way, to begin school early, or even to attend kindergarten. Children beginning at eight or ten years of age will make more rapid progress in studies and generally be farther advanced and maintain a more robust physique at twenty years of age than those who started at six. The reason for this lies right on the surface—the child's mind and body has been allowed to develop in accordance with Nature's laws. In school, mental faculties have been developed at the expense or to the neglect of moral and physical progress. The atmosphere in the schoolroom is too often impure from want of proper ventilation, and desks not adapted to sitting erect, which favors humpback and compressed air cells of the lungs, thus favoring the advent of the bacillus tuberculosis. Owing to too close confinement and the modern plan of mental forcing, children lose their natural elasticity of mind and body, and suffer more or less from abnormal functioning in many of the organic processes. Of course, these ill effects may be obviated by education which gives more equal attention to mental, moral and physical nature, and the pupil will be greatly improved in all respects, with a far better prospect of health and long life; besides, community, in its various relations, will be infinitely benefited. Less intellectual development and more attention given to the moral and physical needs is undoubtedly demanded in the interest of a purer and healthier life.

**TABES DORSALIS.**—In tabes dorsalis the combination of acetanilid, 5 grains; phenacetin, 5 grains, and caffeine citrate, 2 or 3 grains, given every two or three hours from the very beginning of the paroxysm of pain, is, when associated with rest and warmth to the surface of the body, or a light effleurage, a most valuable régime to pursue. The use of any coal-tar derivative should always be in accordance with the strength of the patient and any possible idiosyncrasy.—*Sinkler*.

#### TREATMENT OF INTESTINAL INDIGESTION.—

John C. Hemmeter (*Medical News*, April 18, 1903) says of treatment as follows: In the author's experience it is impossible to succeed with a radical enforcing of strict diet of any kind, but it is wise to recommend what is known as a bland diet; above all things, to study the stools, if possible by the microscope and stool-sieve, in order to discover what foods pass the intestinal tract undigested. These must, thereupon, be avoided, or given in so finely divided a state and in such small quantities that their digestion becomes easier. It is also of importance to utilize the observations which the patients have made upon themselves with regard to the diet. They frequently know what causes distress and what can be digested. The stool examination, however, will guard against deception. The author makes it a rule to forbid alcohol, tea, coffee, and tobacco to these patients. In great exhaustion he allows small quantities of a superior wine or whiskey, under strictest control. In some patients a diet rich in carbohydrates, in others one rich in proteids (beef, fowl, fish), is well digested. In fact, the diet to be followed cannot be decided until a dietetic experiment is made. The same holds good with regard to the treatment of the constipation. Here the practitioner will have to decide whether this is due to atony or spasm of the intestinal musculature, for what will benefit one condition will harm the other. Here, also, in most cases, a therapeutic experi-



ment will be necessary before we can discover whether we are confronted with atony or spasm. The majority of these patients require exercise after meals. A few that are weak may require rest in bed. Especial attention must be paid in the selection of the food for the last meal of the day. Great moderation in the amount eaten and the digestibility are the most important points to bear in mind. A heavy supper will often produce a restless night.

The treatment of the general neurasthenia will be that by electricity, hydrotherapy, massage, and baths. Insomnia demands attention, and often yields to efforts directed to cleaning the colon and stomach. Hypnotics must be avoided as long as possible.

Whenever a dystrypsia has existed for a considerable time on a purely functional basis, it may eventuate in a disease with definite anatomical alterations. One of the most common symptoms is augmented intestinal peristalsis as a result of irritation by fermentative masses. A condition results in which the contents of the upper part of the bowel are hurried through the entire intestine in an unaltered condition, *i. e.*, the stools may present the same properties as are characteristic of the contents of the jejunum, which are normally thick, but liquid and gelatinous. When there is excessive bacterial activity, the various intestinal antiseptics have been advocated. Personally the author has been able to get along without them in the great majority of cases. He has seen very grave results follow the administration of the irritant antiseptics. Perhaps the most available are bismuth salicylate and subgallate, betanaphthol, bismuth, thymol, menthol, resorcin, and salol. Creosote, even in small doses, has, in the author's experience, deranged the stomach in sufferers from dystrypsias. In cases, in which the gastric secretion of HCl was suppressed, he made a trial with the orexin, so strongly recommended by Penzoldt, and noted in three cases an irritative

diarrhea, which became manifest after the first two doses, and ceased when the remedy was discontinued.

The following formulas have been used in a large number of cases by the author, for the special symptoms of intestinal dystrypsia.

The first one has proved useful in the putrefactive diarrheas, especially when associated with abdominal pain:

|  |                      |
|--|----------------------|
| R Tannigen.....                        | 4.00 gm. (1 dram)    |
| Bismuth subgallate...                  | 8.00 gm. (2 drams)   |
| Salol .....                            | 1.55 gm. (24 grains) |
| Denarcotized extract<br>of opium ..... | 0.20 gm. (3 grains)  |

This can either be made into twelve capsules or prescribed with six ounces of some elixir, of which the author prefers the elixir of gentian and the essence of calisaya (P., D. & Co.), three ounces of each, in doses of a tablespoonful three or four times a day.

The author's favorite recipe for anorexia from gastric hypochylia in intestinal dystrypsia is the following:

|                         |                                    |
|-------------------------|------------------------------------|
| R Strychnine sulph..... | 0.02 gm. ( $\frac{1}{2}$ grain)    |
| Dil. hydrochloric acid. | 15.00 gm. ( $\frac{1}{2}$ ounce)   |
| Fl. ext. condurango ..  | 45.00 gm. (1 $\frac{1}{2}$ ounces) |
| Elix. of gentian.....   | 180.00 gm. (6 ounces)              |

M. Sig.: One-half of a fluidounce in two ounces of water, one-half hour before meals, through a glass tube.

(The dilute HCl cannot be given in sufficiently large quantity to completely replace the normal secretion if this is absent entirely. Its function is merely that of a gastric and pancreatic stimulant in these doses.)

Or:

|  |                                  |
|--|----------------------------------|
| R Tinct. of nux vom....                  | 9.30 gm. (2 $\frac{1}{2}$ drams) |
| Essentiæ calisayæ<br>(P., D. & Co.)..... | 60.00 gm. (2 ounces)             |
| Elix. of gentian.....                    | 180.00 gm. (6 ounces)            |

M. Sig.: One-half of a fluidounce thrice daily, one-half hour before meals.

When there are evidences of anemia with the gastric hypochylia, the following acts satisfactorily:

|                        |                                  |
|------------------------|----------------------------------|
| R Quin. sulph.....     | 1.16 gm. (18 grains)             |
| Strychnine sulph.....  | 0.02 gm. ( $\frac{1}{2}$ grain)  |
| Sulphate of iron ..... | 0.80 gm. (12 grains)             |
| Arsenious acid.....    | 0.012 gm. ( $\frac{1}{8}$ grain) |

M. Sig.: Make into twelve pills. One pill three times daily. They must be prepared fresh and not coated.

Boas uses the following powder for anorexia :

R Ext. of nux vom. .... 0.024 gm. ( $\frac{2}{5}$  grain)  
 Bismuth subcarbon.. 0.520 gm. (8 grains)  
 M. Sig.: Make twenty powders. One powder three times daily.

Menche has warmly recommended resorcin sublimate, and it undeniably improves the appetite in cases of incipient gastric and intestinal fermentation. It has also a slight sedative action. The following is Menche's formula :

R Resorcin resub. .... 2 gm. (30 grains)  
 Tinct. of rhubarb ..... 15 c.c. ( $\frac{1}{2}$  fl. oz.)  
 Simple elixir, enough to  
 make ..... 90 c.c. (3 fl. ozs.)  
 M. Sig.: A tablespoonful twice daily..

Resorcin can also be advantageously combined with bismuth salicylate, salol, and betanaphthol in the following manner :

R Resorcin resub. .... 5 gm. (75 grains)  
 Bismuth salicylate,  
 Powd. rhubarb,  
 Sodium sulphate..... 4ā 10 gm. (150 grains)  
 Milk-sugar ..... 15 gm. (225 grains)

M. Sig.: An even teaspoonful twice to three times daily.

If dystryptic diarrhea is present, the rhubarb and sodium sulphate must be replaced by calcium phosphate and calcium carbonate, of each 25 grammes.

The following formulas are recommended by Ewald for anorexia with fermentation :

R Tinct. of nux vom. . . 22.56 gm. (6 drams)  
 Resorcin resub. .... 5.40 gm. (83 grains)  
 Tinct. amar. .... 11.25 gm. (3 drams)

M. Sig.: Take ten to fifteen drops every two hours.

R Fl. ext. condurango.. 17.00 gm. (4½ drams)  
 Resorcin resub. .... 4.00 gm. (1 dram)

M. Sig.: Thirty drops four times daily.

In all cases of intestinal dystrypsia the aim must be to understand the cause and remove it, not to give medicines except as an *ultima ratio*.

CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS.—The *Philadelphia Medical Journal* (January 24, 1903) says: Regarding the treatment, a strong claim is made for pyloroplasty. In this position, however, they stand somewhat alone, as most

authorities consider gastro-enterostomy the preferable operation. The claim made for pyloroplasty and its good results in the two cases operated upon and reported in this paper tend to show that the objections usually made to the operation exist more in theory than in practice. The experience of no one operator has been extensive in this condition, and it is difficult to determine the best operative procedure. Pyloroplasty is certainly simpler and more quickly performed than gastro-enterostomy, and probably may be looked upon as an operation carrying with it fewer dangers. Gastro-enterostomy in the hands of a surgeon accustomed to performing this operation would probably give just as good results as pyloroplasty. Dilatation of the pylorus, Loreta's operation, or some modification of it, has been performed a number of times, but we cannot but feel that this method is much inferior to either pyloroplasty or gastro-enterostomy. Dent and Cautley show that the stenosis is not due to spasmodic contraction, since there is no transverse gaping of the wound when the incision is made through the muscle. Thomson maintains that the hyperplasia is secondary to spasms; with this view, however, the authors are not altogether prepared to agree.

This subject is one which demands the attention not only of surgeons, but of general practitioners and obstetricians, since it is into the latter's hands that these patients fall, and any relief to be obtained from operative procedure must come from early rather than from late operation.

TETANUS.—Harry M. Loewenstein (*St. Louis Courier of Medicine*, April, 1903), in reporting at length two cases of tetanus, says as follows: In the first case reported, the curative results of antitetanic serum are well demonstrated. In the second case, the toxin had gained too strong a hold and consequently the serum could do no good. Cases are sufficiently numerous in literature to allow us to conclude

that the curative effects of antitetanic serum are absolutely unquestionable, provided it is given in time and given in sufficient dosage. The antitoxin of tetanus is a classical example of a therapeutic serum of well-known efficacy. In the experimental animal the proof that this antitoxin will combat the toxin is undeniable. In man, under proper conditions, the same has been demonstrated, as was exemplified by my first case. We have in antitetanic serum a most potent addition to our armamentarium, and we should not let its use lapse into "innocuous desuetude," as some would have us do. Of course we should not neglect the other rational means at our command for assisting the system to throw off the tetanus infection. After an early diagnosis we should give large doses of the serum to saturate the system, cleanse the wound thoroughly, and cauterize with the actual cautery to destroy the bacillus tetani and prevent its further elaboration of toxin; if this cannot be thoroughly done, we should excise the part or amputate. The wound should be dressed antiseptically every day and treated with dioxygen, with the hope of preventing the growth of the tetanus bacillus, if it has not been removed by the previous cauterization; the bacillus of tetanus dislikes an oxygen-containing atmosphere, and certainly oxygen is furnished to the wound by dioxygen. Sedatives and depressants should be used, not that they exercise any specific antagonistic effect upon the toxins of tetanus, but because they ward off the convulsions, thereby preventing exhaustion, congestion of the brain and cord, and death by cramp-asphyxia.

Carbolic acid may be used hypodermatically in glycerin emulsion, but as carbolic acid and alcohol are chemical opposites, I believe the effects of carbolic acid can best be obtained by administering it in aqueous solutions *per os*.

Morphin, hypodermatically, for the pain is very effective, as was demonstrated in my first case.

TREATMENT OF CHRONIC DYSENTERY. — Chas. F. Kieffer (*The Philadelphia Medical Journal*, February 7, 1903) says: The local treatment of chronic dysentery is our mainstay and, all things considered, is the most rational plan. Before detailing the various remedies employed, I must call your attention to certain very essential general points for you to bear in mind in the local treatment of the colon. First of all, you will not use local remedies in acute or subacute recurrences or recrudescences in chronic dysentery. You must combat these active conditions in the manner I have described to you in the treatment of acute dysentery. These cases should be put through a several days' treatment with ipecac or the saline sulphates, until the acute symptoms have subsided. Then you may begin with topical treatment.

In the next place, the manner of making the application is of considerable importance. The greatest difficulty you will encounter is the irritability of the colon itself, its intolerance of the injection. You will remember that this was the chief objection to the use of local remedies in acute cases, and you will find, even in chronic cases, sufficient difficulty in overcoming it. You may find it necessary, at first, to anesthetize the rectum with a 4 per cent. solution of cocaine, or with a suppository containing cocaine or iodoform. You will very commonly discover that the full amount of the irrigation cannot be used at first, and that the ability to admit a large quantity of fluid will be attained gradually, beginning with a small quantity and increasing daily. These injections should never be given hurriedly, and should be either under the supervision of the physician or in the hands of very competent attendants. The intention is to bring the medication in direct contact with the diseased surface; to do this, the quantity of the fluid must be such that the irrigation will fill the colon and will reach quite up to the ileocecal valve. The pressure must be such that the bowel will be



moderately distended, so that the remedy may reach every part of the sacculations and flow between the folds of tumefied mucosa. To attain these ends the clyster must be from 3 to 6 pints. The fluid must run with very little pressure and very slowly. For all practical purposes, 3 feet should represent the extreme head of your hydrostatic column, and it should be as much less as is possible, in each individual case, to fill the colon. It has been shown that a fall of 6 to 8 inches suffices in many cases. The injection must be stopped when there is pain. I do not mean by this discomfort, since the filling of even a normal colon is attended with some degree of discomfort. When you begin topical treatment you will find that the irrigation may be rejected at once, and particularly is this the case if the introduction be made rudely or hurriedly. Hare advises that 10 to 15 minutes be allowed for the injection to flow in, and speaks of "sneaking" the solution into the bowel, as it were, and so prevent "angering" the colon. A very graphic description, gentlemen, that should be of the greatest instructive value to you. Further to facilitate the flow into the bowel, I have adopted the following routine: The patient is placed on his left side, buttocks elevated, and the rectal tube, well lubricated, is carefully introduced. Just here you can, by supervising your attendants and insisting on gentleness, save your patients much pain. The lower rectum is sometimes exquisitely tender, and the harsh introduction of the rectal tube or syringe point may rouse the colon to the point of rejecting the fluid. I hope you will not think this a trivial point. It may, indeed, mean the success or failure of your whole plan of treatment. The solution is allowed to flow in very slowly, the left position being maintained for five minutes. The patient then slowly turns on his back for another period of five minutes, and finally on his right side for a further five minutes. The tube is then gently withdrawn, the buttocks are lowered, and the patient lies

quietly in bed making an effort to retain the injection as long as possible. When it is finally voided, it should be done in the recumbent position. The reason of this is that in the erect or sitting posture the colon acts somewhat as a siphon, a particularly efficient one when the walls are rigid, and empties itself not only more quickly but with a degree of violence, not always consistent with the diseased conditions. Never permit abdominal massage during the injection, with the idea of diffusion of the liquid, make three feet your extreme pressure limit, and either stop the injection or diminish your pressure when there is pain.

**EPISTAXIS.**—In cases of foreign bodies being present, no treatment is likely to be of avail until they have been removed. Many attacks subside readily on firm pressure over the alæ of the nose close to the bony septum; either pads or the fingers may be used. Ice to the forehead, the nose, or the back of the neck is often a valuable adjunct to other treatment. Either hot or iced water gently thrown into the nostril is often efficient, and may be made more potent by the addition of alum or tannic acid, or these agents may be insufflated in finely powdered form. Zinc sulphate, copper sulphate, or lead acetate may be applied on cotton pledgets in an aqueous solution of thirty grains to the ounce. Ulcers may be touched by a 15 per cent. solution of chromic acid, avoiding the sound tissue. Some practitioners use the actual cautery in severe cases. Digital compression of the facial artery, with patient in the recumbent position with arms extended above the head, is often useful. Internally, tincture of ergot, oil of erigeron, dilute sulphuric or nitric acid, or tincture of opium have proven of value. In recurrent attacks the patient should be given a box containing some pledgets of cotton, lint or wool, ready prepared, and one of the following solutions: peroxide of hydrogen, 8 per cent. acetanilid, or a 1:1,000 solution of

trichloroacetic acid; or the pledgets may be soaked in the solution and allowed to dry (except the peroxide of hydrogen), and the patient instructed to dip them into water just before insertion. Tie a short strand of fine surgical silk to each pledget, so that the patient may remove them unaided. A condom may be carefully inserted by aid of forceps, and then be inflated *in situ*. Kyle suggests the use of an ordinary polyp snare *in lieu* of the Bellocq canula. The wire of the snare is made to carry general strings back into the pharynx, the strings are withdrawn through the mouth, and the pledgets of cotton attached, the snare is withdrawn and the strings separated; traction is now made till the posterior nares are plugged firmly; the anterior nares are then plugged by other pledgets. It seems an excellent suggestion and of easy technique. If the plan of plugging be resorted to, care must be taken that the pressure is not firm enough to entirely shut off the blood supply from the compressed parts, and the plugs should never be left in position longer than forty-eight hours. In case of constitutional trouble, remedies appropriate to the general condition will readily suggest themselves.

INFLUENZA.—J. R. Nichols (*The Medical Times*, April, 1903), in speaking of treatment, says: Uncomplicated cases run a favorable course, the death rate being practically *nil*. If serious complications occur, the mortality per cent. is increased and the prognosis must be guarded. It is well to remember that existing functional or organic diseases, also constitution and age, figure prominently in the death rate. The proper management and treatment of influenza is simple and better understood than the symptomatology. It should be our aim to use supportive measures and stimulate the secretions and excretions. Instructions should be given about clothing and the necessity of being warmly clad; also that unnecessary exposure is not beneficial and favors re-

lapse and complications. A preliminary cathartic is always necessary, and the best to be selected is either a saline or mercurial. I prefer for this geographical area fractional doses of calomel. It acts as an indirect cholagogue, intestinal antiseptic, diuretic, and gastric sedative. There are many agents that can be used with satisfaction in different combinations and to suit the condition of the patient and the intensity of the attack. I seldom administer more than any of the following three in one prescription, as phenacetine, acetanilid, salicin, sodium benzoate, sodium salicylate, Dover's powders, pilocarpine, salol, and quinine sulphate. Stimulating agents are usually indicated and can be alternated with any of the above combinations. I generally prescribe strychnine and spiritus frumenti with some palatable vehicle. It is necessary to use expectorants if a severe bronchitis exists, and the ammonia preparations are the best if gastric irritability is not present. The application of cold compresses externally to the throat, and using chipped ice internally, produces a soothing effect for the pain and discomfort caused by the existing tonsilitis and pharyngitis. There is no objection to antiseptic gargles, and they are exceptionally valuable from a psychological standpoint. In regard to the dietary, it is best to administer easily assimilating food, especially of fluid consistency. In addition, it is important to keep the intestines in a soluble condition. Insist on quietude and relative rest, but it is not always possible to have our patients carry out this instruction, as many of them will insist on remaining up and attending to business matters — so-called "walking cases." During the period of recuperation give an invigorating tonic suitable to the individual case, and advise the importance of unnecessary exposure and overexertion, which are frequent causes of a relapse. All complications and sequelæ of a serious nature require important consideration, especially when the influenza *per se* is of minor impor-

tance. When the diagnosis of these conditions is made, it is always best to manage same as if it was the true disease. I consider it feasible to pursue this plan along with the basis of treatment now accepted in the ordinary type of la grippe. The laity are perfectly satisfied with the outcome of "grip," either for better or worse, and the profession is not so readily criticized as they realize that a severe attack is often fatal, especially when serious complications exist.

BRONCHIAL PHTHISIS.—Alb. Abrams (*N. Y. Medical Journal*, January 3, 1903) concludes as follows: We must pursue the same course as is pursued in pulmonary tuberculosis, with the object of immunizing the organism, and especially the lungs, against tuberculous invasion. This comprises nutrition, air, sunshine, and a hygienic environment. Cod liver oil is lauded, but there is no reason to believe that it possesses any specific influence beyond promoting general nutrition. Residence at the seaside, which seems to exert such a beneficial influence in all cases of lymph tuberculosis, should be tried in bronchial phthisis. Syrup of the iodide of iron, in continuous and increasing doses, seems to exert some specific influence in this disease. In the only case which the writer succeeded in curing, large doses of potassium iodide were employed, the patient having given a history of syphilis. It is not unreasonable to assume that in the latter case the tubercle bacilli had fallen on a tissue soil propitious for their growth, and when the soil had been rendered sterile, the growth of the bacilli was inhibited. The writer has lately been employing in bronchial phthisis inunctions of *sapo viridis*, one drachm, rubbed in daily in different portions of the body, after the manner of mercurial inunctions, and, he believes, with good results. This method is not original with him. He has acquired the fact somewhere in the literature, but where he is unable at this time to state.

INSOMNIA.—G. R. Reynolds (*The Medical Times*, February, 1903) says: Symptomatic treatment must, indeed, be employed in all cases; and narcotics and sedatives have been principally used. In the choice of these, the drug, the disease, and the individual are to be considered, as well as whether the insomnia is acute or chronic. If acute, the remedy must be prompt and harmless; but if chronic, quickness of action is not so important. A harmless drug is one which is not dangerous in small doses, does not irritate the digestive tract, produce congestion of inner organs, or diminish the strength of the heart. In chronic insomnia its continued administration should not in any way injure the organism. It is, indeed, best to avoid narcotics as far as possible. Since the need of sleep varies greatly with different patients, and the hours in which sleep is the soundest and most beneficial are not alike throughout the night, it is evident that these and other circumstances must influence the choice of the remedy and the time of its administration. As sleep must be obtained in the most natural way possible, the belief must be aroused in the patient that he must go to sleep, the muscles must be relaxed by proper position, and the room should be darkened. A proper external temperature is important, the best being 10° to 14° R. A local sensation of cold, as in the case of cold feet, is a great interference with sleep; though keeping the head cool is an advantage. The sense of hearing may often be made of value for producing sleep; a soft, monotonous sound being useful for this purpose. The action of hypnotism is not to be undervalued.

Among the drugs used for the treatment of insomnia, the first to be mentioned is alcohol in its different forms. In the severer varieties of chronic insomnia, and especially in those persons disposed to alcoholism, it is best to avoid it, but in the lighter forms it is often very useful. Opium and morphine are excellent hypnotics, and produce sleep most like the



refreshing natural sleep. Caution must be exercised in conditions of congestion and in weakness of the heart. The formation of the opium habit must also be guarded against. In children bromide of potash is to be preferred. As I have said, hydrate of chloral is the strongest hypnotic, but is dangerous in large doses.

**NITRATE OF SILVER IN DENTAL PRACTICE.**—Charles W. Glassington (*Medical Brief*, April, 1903) says: Nitrate of silver is used to arrest alveolar hemorrhage after the extraction of teeth, but is not a reliable agent, as the clot formed by it is soluble in an excess of albumen. It is used to relieve the pain of sensitive dentine, but its use for this purpose must be restricted to back teeth, on account of the discoloration it causes. There is not the slightest doubt that it is *par excellence* the best obtundent we have, but the staining it causes restricts its action as stated; in addition it has a retarding action on the ravages of caries. When applied to distal or awkward cavities at the back of the mouth, it should be fused on platinum wire. If the stick itself is used, it is liable to break, and a piece drop down the patient's throat, and so cause serious symptoms. Such a case has been recorded, but the prompt administration of common salt arrested what might have been a fatal case.

For the different forms of stomatitis, and in any inflamed condition of the oral cavity, it is used as a mouth-wash in the strength of from one to thirty grains to one ounce of distilled water. For empyema of the antrum, an injection, two to five grains to one ounce of water, can be used. It can be applied in the solid form to fungoid growths of the mouth, and to granulations due to necrosis of fractured alveolus, the same care being taken as when applying it to sensitive dentine. Should the application in any of the above cases cause excessive pain, a solution of common salt should be used, or, what is better still, a previous application of nitrate of cocaine, not the hydrochlorate, which is incompatible. It is used in dental microscopy as a staining agent, chiefly to demonstrate the epithelial nature of Nasmyth's membrane.

## SELECTED PRESCRIPTIONS.

### ACUTE MANIA.—

- R Tinct. cannabis indicæ,  
Potassii bromidi.....āā 3 i  
Aquæ .....q. s.  
M. Sig. A dose in three times. —RINGER.

### CHRONIC BRONCHITIS.—

- R Acidi carbolici ..... 0.5  
Ichthyoli ..... 5.0  
Spiritus vini ..... 10.0  
Aq. destillatæ.....100.0  
D. S. Inhalation. —NEUSSER.

### ACNE VARIOLIFORMIS.—

- R Resorcini,  
Acidi boracici.....āā 1.0  
Vasellini flavi ..... 10.0  
M. —ROSENTHAL.

Or,

- R Hydrargyri præcipitati albi.... 1.0  
Vasellini flavi .....10.0  
M. —JOSEPH.

### CONSTIPATION.—

- R Quinine sulphate..... gr. i  
Powd. rhubarb ..... gr. iij  
Mercury with chalk ..... gr. iiss  
White sugar ..... gr. i  
M. Ft. pulv. Sig. One powder *t. i. d.*  
—STEWART.

### PRURITUS.—

- R Camphoræ,  
Chloral. hydratis..... āā 3 i  
Ung. diachyli ..... 3 i  
M. Sig. Apply two or three times daily.  
—DRUECK.

### BOILS.—

- R Ichthyol ..... 3 i  
Iodine ..... 3 i  
Glycerin ..... 3 i  
M. Sig. Apply. —CANDLER.

### HEMOPTYSIS.—

- R Quinin. sulphat.,  
Ergotini,  
Ext. opii ..... āā 0.2  
Acid. gallic..... 2.0  
M. Ft. pill. No. xx. Sig. Five pills daily.  
—VRATCH.

### LARYNGEAL TUBERCULOSIS.—

- R Orthoformi..... 3 ij  
Resorcini ..... 3 ss  
M. Sig. Apply every other day.  
—MCCALL.

### GRANULAR CONJUNCTIVITIS.

- R Copper sulphate ..... gr. i  
Salicylic acid,  
Cocaine hydrochlorate ..... āā gr. ij  
White petrolatum ..... 3 ijs  
M. Sig. Apply at night. —Merck's Arch.

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## Original Articles.

### *THE SUCCESSFUL TREATMENT OF EIGHTEEN CASES OF GRANULAR LIDS BY THE X-RAY AND HIGH-FREQUENCY VACUUM ELECTRODES.\**

By ALBERT C. GEYSER, M.D.,

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Granular lids or trachoma is too well known to require very much of a description; hardly an institution or school exists, even under the most rigid sanitary conditions, which has not always one or more of these cases on hand. We know this disease to be contagious and most rebellious to treatment, and still so accustomed have we become to seeing it that it has grown upon us, and by its very constancy has become one of the evils to be tolerated.

How often do we see children and even adults with granulated eyelids, apparently never giving themselves any concern whatsoever; the fact, however, remains that these same cases have been treated and by competent men, at proper institutions as well as at home, yet the disease remains, and the average ophthalmologist must be satisfied if he can relieve a certain percentage and keep others from growing worse.

One of the most dreaded complications of this disease is the formation of pannus, which is of course hardly a complication,

but simply an extension or invasion of different tissue by the same morbid process.

It is this percentage of chronic cases, which have failed to be relieved by the ordinary methods, that we wish to consider in this paper, and we will do this as expeditiously as possible, so that, if this paper possesses no other merit, it shall at least possess the merit of brevity.

History informs us that this disease has been known for centuries, and, strange as it may seem, the treatment instituted by the ancients is as effective to-day, and with little modification used at present by every eye-surgeon; namely: scarification and expression or removal of the granular material.

Etiology and symptoms need hardly be considered here; they are found stereotyped in all text-books, in fact, we have all read and re-read them, so that we have them committed to memory.

Pathology, however, is entitled to more serious consideration, for treatment of any kind not in harmony with the pathology of the disease can hardly be called scientific.

In trachoma we see an excessive degree of development of the papillæ of the mucous membrane and the formation of the granulations.

Microscopically the granulations may have an imperfect capsule, or may have no capsule, but they seem to grow from, or in, the stroma of the conjunctiva. In the acute form the granulations consist of the lymph cells alone. They are to be regarded as new growths in the conjunctiva, and, in addition to the lymphoid cells, the mass of cells and connective tissue is penetrated by blood vessels.

\* Read before the meeting of the Am. Electro-Therapeutic Association, Atlantic City, Sept. 22, 23, and 24, 1903.

The chronic granulations consist of lymph cells toward the surface, but their bases are chiefly formed of connective tissue. Gradually the cellular elements are transformed into connective tissue, and in this way cicatricial degeneration of the conjunctiva is brought about at each spot where a granulation was seated.

To sum up: The pathological condition consists of a chronic inflammatory process, causing dilatation of the blood-vessels, the consequent formation of a new growth or granulating material, with subsequent degeneration and the formation of connective tissue, which eventually contracts, causing the deformities of entropion or ectropion.

*Treatment.*—The chief aim of the treatment must be to check the development of the hypertrophy of the conjunctiva, and bring about absorption of the granulations, in order to prevent the destruction of the mucous membrane and to reduce the previous results of the disease to a minimum.

In the light of modern electro-therapeutics, what is more logical than the application of the X-ray to check the development of hypertrophy and cause protoplasmic contraction, thereby limiting, in fact, preventing the further formation of granulating material.

A few exposures, six to eight, will suffice to bring about this much-desired result.

Our second consideration is to cause absorption and to stimulate normal nutritional processes; nothing seems to answer the purpose any better than the direct contact of the tissues with a high frequency vacuum tube, generated by a Static Machine, X-ray coil, or Kidder High Tension Apparatus.

*Technique.*—The patient is seated; with a little vaseline anoint the margin of the closed lids, paying especial attention to the lashes; now, a strip of adhesive plaster,  $\frac{1}{2}$  inch wide, is caused to adhere to outer surface of the eyelid, so as to appear as a prolongation of the lid; should it be the lower lid that is being treated, a small

lead weight, about  $\frac{1}{4}$  of an ounce, is fastened at the other end of the adhesive tape, which should be about two or three inches long; place a wire-probe, lead pencil, or similar object, under the eyeball on the outer side, make gentle traction, and the lid will become everted to its fullest extent and remain so by suspending the weight. If the upper lid is to be treated, the same process is to be applied, but the weight is then passed over the head of the patient, and allowed to exert its traction in that manner. A shield of rubber composition with a circular perforation, the size of a 25-cent piece, is brought close to the face of the patient, and through this aperture the X-ray is allowed to act for a period of three to five minutes on alternate days for about two weeks. No harm has as yet been experienced from the exposure of the eyeball, if the tube is brought no nearer than six inches.

After about six or eight such X ray exposures the lids are prepared in the same manner, and a high-frequency tube is brought in direct contact with the entire conjunctiva, being careful not to cause undue irritation by the moving of the glass electrode over the mucous membrane; this is continued for one to three minutes, the lids are then released, and a similar application with a broad flat vacuum tube is then applied to the closed eyelid on its outer surface.

A probe wrapped with a little cotton, which is moistened in some clean water and occasionally passed over the everted lid, seems to be very grateful to some patients.

The vacuum tube treatment should be continued for from one to three weeks, as the requirements of the case may demand.

The eighteen cases referred to were cases promiscuously selected, some occurring in private practice, some from institutions, still others were referred by eye surgeons.

The details of one case will practically answer for all:



Mr. N., 43 years of age; occupation, school teacher; referred by Dr. Skeel, of New York, on January, 1903. Trachoma is present in upper and lower lid, on left side only, of now eight years' standing. The lower lid is studded with granulations, and through cicatricial contraction the lid is inverted, causing the cilia on the margin of the lid to continually irritate the cornea, which is already cloudy, with some interference of vision.

This case was subjected to the treatment as outlined above; after the fourth exposure to the X-ray a mild reaction appeared, which caused no inconvenience, the tube was simply removed a greater distance, and the time shortened until eight exposures had been made.

The high-frequency vacuum electrode was now substituted and continued on alternate days until the end of March, when the patient declared himself free from all pain and irritation; his sight was almost as good as in the other eye, and to all appearances completely cured.

Six months have passed since his discharge and no recurrence anticipated; he remains well.

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Two grains of salicylate of sodium every hour are said to cure urticaria very quickly.

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ULCUS VENTRICULI. — Henry C. Luck (*Cleveland Medical Journal*, June, 1903) advises the following plan of treatment:

Treatment is largely prophylactic. Diet is the most important factor. A milk diet seems to be the most efficient food. Emollient drinks, such as flaxseed tea, barley water, egg-albumen water, and olive oil, in repeated small doses, are useful, while bismuth in large doses has been a most popular remedy. When there is much pain, codein in combination with the bismuth, either suspended in solution or powder (never in capsules), and nitrate of silver, 0.2 of 1 per cent. solution, should be given. Daily evacuations should be insisted upon, with the assistance of a

saline cathartic, *i. e.*, phosphate of soda in combination with sulphate of soda, Carlsbad salt, etc. Soft foods are given for a few days, then a carefully selected diet.

If hemorrhage occurs, or has occurred, treatment is different, as now our patient is in a precarious condition. The patient's head should be lowered, and he is compelled to remain in the dorsal position absolutely. The stomach should also remain at absolute rest, and a total abstinence of all food by the mouth should be resorted to. Alimentation *per rectum* is only permissible in case the patient is anemic or weak. Ice-bags should be applied over the epigastrium. Hypodermic injections of aseptic ergot, when the hemorrhage is persistent, should be administered, and they are recommended by Ewald. Codein in sufficient dose may be employed if necessary to relieve pain.

Liquid feedings by mouth may be commenced on the third or fourth day such as milk and lime water, peptonized liquid beef, peptonized milk, beef-tea, clam-broth, egg-albumen water, all at a temperature of 95–98° F. (I am speaking now of treatment after traumatism.)

On the seventh day the patient may have cocoa, powdered malted cereal foods (prepared), of which there are many, yolks of egg, egg and milk, beef-juice, etc. The patient should be kept in bed through the second and third weeks, and the pulse should be carefully watched. Cardiac stimulants should be applied when indicated. A third-week patient may be allowed some semi-solid foods, *i. e.*, custards, zwieback and milk, oysters, sweet-breads, etc. Fourth-week patients may have scraped beef, and purée of vegetables which have been previously passed through a sieve. Care should be taken by the patient for some time to come. Foods should never be too hot nor too cold, and patients should be kept on a moderately strict diet for a year. In case of perforation, operation should be insisted upon immediately.

*THE CAUSE AND SPECIFIC TREATMENT OF HAY FEVER; A PRELIMINARY REPORT ON THE USES OF THE TOXINS AND ANTITOXINS OF PROF. DUNBAR.\**

By EMIL MAYER, M.D., New York City.

Early in April of this year, Professor Dunbar, of the Hygienic Institute at Hamburg, Germany, sent me two of his reprinted articles on the cause and specific treatment of hay fever. He also wrote me that he was desirous of having an investigation made on the action of his toxins and antitoxins on the subject of hay fever in this country. The brochures dealt very exhaustively with the subject, and the conclusion reached was that the hay-fever poison was a soluble toxin found in the starch bodies of the *Graminaceæ*. This poison (pollen toxin), injected at a remote time from the usual attack into the arm of a confrère who was subject to hay fever, produced all the symptoms of hay fever within fifteen minutes, which lasted with increasing severity for some time, and four days elapsed before all symptoms disappeared.

A control person, not subject to hay fever, injected at the same time, had no symptoms whatever. Subsequent experiments went to show that a small amount of the toxin applied to the conjunctival or nasal mucous membrane of a hay fever subject was promptly followed by evidences of irritation, while the non-susceptible had no reaction. He was thus enabled to determine the toxicity and non-toxicity of the various pollens. By injecting the toxin from the pollen of rye in animals a serum was produced.

In response to my letter indicating my willingness to undertake the investigation, I received on May 16, 1903, a package containing solutions and droppers accurately fitting to small test tubes.

The solutions were: 1. Rye pollen toxin, 1:1,000. 2. Antitoxin with  $\frac{1}{4}$  per cent.

\* Reprinted from *The New York Medical Journal*, August 8, 1903.

of carbolic acid. 3. Normal horse serum with  $\frac{1}{4}$  per cent. of carbolic acid.

The droppers and tubes were carefully sterilized and placed in properly-labeled glasses and kept for the same purpose always.

The cases experimented on by myself were divided into two groups: *a.* Those suffering from periodic attacks in May, June, and July, and called spring cases. *b.* Those suffering in August and September, termed autumnal.

In each instance a person non-susceptible to hay fever was similarly treated, and all received the following: One drop of a mixture of equal parts of normal horse serum and of pollen toxin was dropped in one eye, while one drop of a mixture of equal parts of antitoxin and pollen toxin was dropped in the other.

Where reaction occurred there was much redness, followed by burning, itching, and finally slight edema in the eye in which toxin and normal serum were placed, while the other eye remained normal.

The symptoms appeared promptly, and when the burning became intolerable, one drop of the antitoxin relieved it immediately.

This reaction was the same as had been noted by Professor Dunbar and corroborated to a great extent by Sir Felix Semon in London and Dr. McBride in Edinburgh.

My report to Professor Dunbar, on May 29, was that I had exhausted the contents of the phials sent me, that more would be required for further investigation; that the result of experiments thus far made was that the reaction had been all that he had described in practically all of the spring cases; that there was an absolute failure to react in all the autumnal cases, and that in each instance, save one, there was no reaction in the control cases. In that instance the control person reacted quite as well as the spring cases, although she had never had any periodical attacks previously. Professor Dunbar's answer, dated June 8, was that it seemed

likely that the autumnal cases would respond to some toxin other than the one thus far sent. They were now in the height of their hay fever season in Germany. Clinically, the antitoxin seemed to be of the greatest value when used as a preventive. He had been able to keep himself entirely free from all attacks by applying the antitoxin in the following manner: Two drops were placed well back in each nostril and sniffed up on arising, and before leaving the house one drop was placed in each nostril. The small bottle of serum, and the dropper with its tube in a small case, were carried about, and on the slightest evidence of itching one drop was applied. Many patients had thus been able to prevent the asthmatic attack. Hypodermic injections had thus far occasioned much local irritation.

The serum sent me is of such strength that one drop of it is sufficient to neutralize the effect of twenty drops of the toxin solution. For those intolerant of carbolic acid the serum was prepared as a dry powder and used as a snuff.

In the cases of the spring variety of hay fever the antitoxin has had a gratifying effect, and those patients who have used it have had in the main either complete relief or, where the condition was well advanced, decided amelioration, and this would indicate that the spring variety of hay fever in America is identical with the hay fever of Germany.

I have provided a number of hay fever subjects with phials of antitoxin and droppers, which they are ready to use on the approach of the date of their annual visitation, and their reports will be carefully gathered and announced.

It is too early to discuss the outcome of these investigations, but it seems at the present writing that the cause and treatment of the spring variety of our American hay fever are now known, and that it should not be difficult to find the toxin for the autumnal variety.

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## THE TREATMENT OF PUERPERAL ECLAMPSIA.\*

By F. S. CLARK, A.M., M.D., Cleveland.

In obstetrics, perhaps more than in any other department of medicine or surgery, we are frequently confronted with the sudden onset of complications which seriously endanger the life of both mother and child. No one of these complications is more serious or more to be dreaded than eclampsia. Fortunately it is not a frequent complication, occurring only once in 250 to 400 cases, according to different observers, but the mortality is high, ranging from 20 to 30 per cent. for the mothers and 50 per cent. for the infants. Nothing but our best efforts will be sufficient to overcome such a mortality.

If we would treat a disease satisfactorily, we must know its cause. While this is not definitely known in the case of eclampsia, the many theories advanced in the past as to its cause have gradually been giving way to the belief that the convulsions are due to the presence of some toxin in the blood. The failure of the kidneys to perform their functions suggested the possible etiologic relationship of urea, a factor which is no longer considered as the sole cause. The failure of the kidneys, however, does aid in the accumulation in the blood of the causal toxin whatever it may be. These are questions that future investigations must settle. To-night I wish to limit myself to a discussion of the treatment of eclampsia.

Eclampsia may occur during pregnancy, labor, or the puerperal state, and its treatment must be modified accordingly, but, without waiting for the onset of convulsions, there should be vigorous prophylactic treatment as soon as any symptoms occur to warn us of danger. These symptoms are rapid pulse with high tension,

\* Read before the Academy of Medicine of Cleveland, January 16, 1903.—Reprinted from the *Cleveland Medical Journal*, July, 1903.



headache, gastric disturbances, difficulty in seeing, swelling of the feet, hands, and face, decrease in the amount of urine, and the presence of albumin. All of these are not present in each case, and it is well to remember that because albumin is absent we are not necessarily free from danger. The mere examination for albumin is not enough. We must watch for the other symptoms. An estimation of the solids excreted during 24 hours is especially valuable, though it is difficult to make with accuracy. If these are found to be decreasing, appropriate measures should be taken to restore the normal conditions. Sometimes many of the above symptoms may be present without convulsions occurring, or, on the other hand, most of them may be absent and convulsions occur suddenly. As in all diseases, there are cases which are so rapidly fatal that nothing can be accomplished. There are also cases that are so severe that most thorough prophylactic measures will fail to stop the occurrence of convulsions, but it will probably postpone them to a time when the danger will be much less, for the mortality is lower during and after labor than before.

Accurate information regarding the origin of the toxin would be valuable in directing the prophylactic treatment. Experience shows that beneficial results follow the restriction of food just as in uremia, so that an exclusive milk diet is best. In the milder cases, if it is possible to tell which are to be such, slight additions could be made of some of the least harmful foods. Winckel says that light meats could be given, but this hardly seems wise.

Our efforts, as far as possible, must be directed toward freeing the system of those toxins which are already formed. The failure of the kidneys indicates our best guide to the line of treatment that should be adopted to accomplish this result. For diuresis, mild alkaline waters are the best and should be taken freely. The potassium salts are apt to be irritat-

ing, and it is better not to use them. In addition to this, stimulation of the functions of the intestines and skin is of course invaluable. The bowels should be moved freely every day by the use of some laxative if needed. Phosphate of soda in small doses is effectual, and especially good because of its mild action on the liver. Occasionally it may be wise to take a cathartic dose either of this or of one of the other salts. High injections of salines aid by flushing out the bowels. A warm bath should be given each day to keep the skin in good condition. When these means fail and the symptoms grow worse, the production of labor is indicated, and it is not wise to delay unnecessarily.

As has been said, prophylactic treatment sometimes fails, while in other cases no precautions have been taken, and we are suddenly confronted with convulsions. Now, more than ever, most vigorous treatment is necessary to save our patients. First, and most important of all, we must eliminate the toxins from the system, and, second, we must control the convulsions. If the convulsions occur before or during labor, the uterus should be emptied at once. Occasionally there are cases in which the convulsions can be controlled and the cause removed without terminating labor, but, in attempting this, we are running great risks, for, if we find our efforts to remove the cause and so to control the convulsions fail, we have lost valuable time and greatly diminished the chances of our patient's recovery. It would seem far better to risk losing a premature child with correspondingly brighter prospects of saving the mother, than to increase the risk of losing the mother with very little decrease of infant mortality. The uterus should be emptied by manual dilatation of the os or incisions of the cervix if need be, the child being delivered with forceps. The growing tendency on the part of the surgeon to recommend Cesarean section instead of the more reasonable obstetric operations cannot be recommended. The results

following this operation for eclampsia are anything but flattering, and the skilful obstetrician can obtain far better results by the old methods.

After the uterus is emptied, the treatment is the same as when the convulsions do not occur, till labor is normally terminated. If we must empty the uterus, it is wise, while this is being done, to begin our treatment for the elimination of the toxins. This may save valuable time. In most cases the patient will soon become conscious after the first convulsion, or so nearly conscious that she can swallow. She should immediately be given a dose of magnesium sulphate or calomel, in order that the action of the bowels may be started as soon as possible. At the same time the remedy of choice should be given to control the convulsions. The best of these are chloroform, chloral, veratrum viride, and morphin. I look upon chloroform as valuable only to hold the convulsions in check until the other remedies can take effect, but for this it must be used continuously and not intermittently as usually given. To give it only when the convulsion begins, does not accomplish much, for the convulsion is over before the patient is under the effects of the chloroform. Chloral has unquestionably been most in favor for controlling the convulsions. It has not always accomplished what was expected of it, but this is often because it has not been used in large enough doses. The tendency to convulsions is hard to overcome, and when it exists, the system will stand enormous doses. The small doses so frequently given are of no avail. I would give, as the smallest dose, 25 to 30 grains by the mouth, or 50 to 60 grains by the rectum, and repeat it in from one to four hours, if necessary.

Veratrum viride is a favorite drug with many. I have used it and felt that it was unquestionably effective. When the pulse is strong and of high tension, the giving of frequently repeated doses of veratrum viride, until the pulse is reduced to 60 or

65 beats per minute, will often be effective. Morphin, which has always been condemned in cases of renal insufficiency, is being used by a few with surprising results. Stroganoff reports 58 cases without a death. He gives one-fourth of a grain hypodermically immediately following the first convulsion, and repeats this once or twice at intervals of an hour, according to the severity of the case. He then gives, in two hours, 20 to 30 grains of chloral, repeating the dose in from four to six hours, as is needed to keep the patient drowsy for 48 hours. If the convulsions return, he repeats the morphin. He looks upon eclampsia as a self-limited disease of 48 hours duration, and considers that, if the convulsions can be controlled and the heart sustained during this time, the patient will recover.

In a recent copy of the *Glasgow Medical Journal* Weit is quoted as having used morphin in 60 cases with two deaths. The Rotunda Hospital, Dublin, is reported in the same journal as having treated 26 cases with chloral and chloroform, and lost eight cases. They also treated 17 cases with morphin, and lost three cases. These figures are most encouraging, and if further treatment by this method results as favorably, much of the prejudice against morphin will be removed. As in all methods employed great care must be used and each case carefully studied. While using these remedies, we must be just as energetic in our attempts to re-establish the functions of the various organs which can aid in eliminating the toxins present in the blood.

As has already been said, one of the first remedies given should be a cathartic, my preference being a saturated solution of magnesium sulphate. An enema should be given as early as possible. It flushes the lower bowel, removing such toxins as may be there, and cleanses the mucous membrane, so that it will the better absorb remedies if the patient cannot swallow them. Calomel is a good substitute, if the salts cannot be obtained at once.

To promote the action of the skin, the wet hot pack is frequently effective, but it may be slow to act or fail entirely. Pilocarpin is not generally advisable because of the danger of pulmonary edema. A valuable remedy to promote diaphoresis is the subcutaneous injection of salt solution, but its greatest value is that it produces diuresis. Ordinary diuretics are of no avail at such a time. Enough cannot be given to be effective, and they are more likely to prove an irritant to the kidneys if we give them. Water cannot be given in large enough quantities to be effective, but by using a saline solution subcutaneously we introduce into the system large quantities of fluid, which will be rapidly absorbed and cause, in most cases, profuse diaphoresis and diuresis. Flushing the bowels with such a solution and leaving a quantity in the colon to be absorbed, is also beneficial.

Some advocate bleeding when the pulse is very full and strong. Others claim that just as good results can be obtained from *veratrum viride*. I have had no experience in blood-letting, though one case reported to-night had been bled before I saw her. After bleeding, the free use of salt solution used subcutaneously should be very effective. Intravenous injection of saline solution should be given cautiously, as there might be great danger of overdistension of the heart.

Among other remedies used are nitroglycerin and of late thyroid extract. These do not offer any special advantages not found in the remedies already mentioned, though the thyroid is especially recommended for its diuretic effect.

There is another point that is even more important, but only because, by enforcing it before the convulsions occur, the first one mentioned will seldom be needed; that is, prophylaxis. In every paper I have written on any obstetric subject I have urged that greater attention be given to obstetric cases in the preparation for confinement. The patients themselves do not appreciate the value of it, and they

never will if they are not instructed by their physicians, for so many cases terminate normally that a false feeling of security is the result. In no single case can we predict that we shall escape without a convulsion, therefore, in no one case are we excusable if we leave undone those things which will in all probability warn us of impending danger. I realize that it is hard to get specimens of urine to examine and to always determine positively from them that danger exists. I realize that, in spite of watchfulness, eclampsia sometimes occurs without any apparent premonitory symptoms. I have had such experiences. These experiences, however, should lead us to be even more thorough in our cases, or we had better not undertake them. A mere examination of the urine for albumin is not sufficient, for convulsions may occur when it has been absent, but a careful study of each case will seldom fail to give us some warning, even though slight, in time to adopt effective prophylactic measures.

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**IODOFORM DERMATITIS.** — The treatment of iodoform dermatitis is, in the first place, to stop the application as soon as the first symptom of itching is complained of and the first little vesicle seen; cleanse the surface thoroughly, using peroxide of hydrogen to loosen up the iodoform that has adhered to it, remove every particle of the drug, for any part of it left acts continuously as a poison and delays recovery. After cleansing, daily applications of carbolyzed vaselin 5 per cent., or an aqueous solution of carbolic acid, should be made until all vesicles disappear. I have obtained better results from this application than from any other. It is well at each dressing to immerse the part in an astringent solution in hot water for from 10 to 30 minutes. If dry dressing or dusting powders are used, they must be applied freely and repeated frequently, as they become early saturated with the exuded serum.—W. A. Bryan, (*Jour. Amer. Med. Ass'n*, April 11, 1903).



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## Editorial.

### TRACHOMA.

The oculists of New York City have been afforded unusual opportunities, during the past year, for the study of the treatment of trachoma because of the vigorous campaign instituted by the Department of Health among the children of all schools. It had long been known that trachoma was an affection of common occurrence in schools and institutions, but that the percentage would be so high was not anticipated. Discussion as to the best mode of treatment has been rife in medical societies, and the journals; many authorities have unhesitatingly expressed an opinion of the great difficulty at times of differentiating follicular conjunctivitis from the true trachoma in the contagious sense as we usually understand it. It has been pointed out that many of the so-called rapid cures with mild remedies were not trachoma, and that the affection was rebellious to most remedies. Copper, glycerite of tannin, bichloride, silver, and other medication have found their champions; the operation of excision has been abandoned, but expression of the follicles by a "special forceps"—for it seems that each oculist has devised some special modification of another's instrument—has held the field. As a result of all this, the

attention of the laity has been directed to the frequency and seriousness of the condition, and with it the affection is becoming controlled. It is safe to say, however, that a considerable time will be required before we can assert that it has been eradicated. When we consider the resistance which so many cases of trachoma offer to all therapeutic intervention save operation, it does not seem strange that the X ray has been brought to the fore as a valuable measure. We take pleasure in presenting to our readers a most interesting contribution on this phase of the subject, by Dr. ALBERT C. GEYSER, who claims success in the treatment of the disease with the use of the rays and high-frequency vacuum electrodes. It cannot be claimed that all cases should be subjected to such treatment, but in purely operative cases, which refuse expression, it might well have a field of usefulness. Proper technique is highly essential to good results, and the method should not be used by any other than those specially qualified in electro-therapy. We await with interest a final decision of its merit from an extended experience by different observers.

NOT SO VERY LONG AGO inflammatory conditions of the gall-bladder and its ducts were considered purely medical, and only in unusual instances was the assistance of the surgeon requested. As with appendicitis, however, the pendulum has swung to the other extreme, and operations for gall-stone, with its complications, are of very common occurrence in these days. Not only is operation more frequently undertaken, but extirpation of the bile-bladder is many times advised and practiced. A wider experience in this field has accumulated, and surgeons have come to lay down a greater number of indications for operative intervention and to place less reliance than formerly on the necessity of possessing a gall-bladder. Not that the gall bladder is useless and without a purpose; but patients without it do not

by any means fare so badly as was formerly supposed. Some have even asserted that the viscus *is* useless. The same cry was raised against the appendix, and yet it will be remembered how WEIR, of New York, found it distinctly serviceable for the treatment of chronic ulcerative colitis. Surgery has advanced our knowledge of the diseases of the biliary ways and, by advising earlier and more frequent operations, has reduced the mortality from these affections.

WHEN CONFRONTED WITH a case of puerperal eclampsia little time is to be lost, and, unless the physician has a plan of treatment clearly fixed in his mind, the result may be fatal to the mother and child. In this number Dr. F. S. CLARK clearly defines his position and places before us a method which he has found successful in a series of cases. The writer urges the great importance of prophylaxis by routine and systematic examination of the patients, and states very pointedly that "so many cases terminate normally that a false feeling of security is the result." When general practitioners devote more time and attention to the urine of pregnancy, eclampsia will be on the decline.

ANY MEASURE which would tend to alleviate and much more cure the sufferings of hay fever patients would be considered a boon. Many and varied have been the theories of its causation and numerous have been the remedies experimented with for its control. Thus far nothing has been produced which could be considered a specific. The various suprarenal gland-preparations, as well as their active principle, have served a good purpose, but their action has been transitory for the most part and not curative. In this issue we publish a very interesting preliminary report, by Dr. EMIL MAYER, on the cause of hay fever and its specific treatment by the antitoxins of Professor DUNBAR. It seems from this short report that in the

future some hope may be held out to these patients, and more likely in the spring variety than in the autumnal type. The results of subsequent observations will be watched with great interest.

#### THE THERAPEUTIC NOTES.

Camescasse advises the local application of olive oil in cases of contusion and hematoma.

Carbolic acid, creosote, benzoic acid, copaiba, thymol, and zinc oxide have been recommended for controlling the secretion of bronchorrhea.

Borde claims that quinine sulphate mixed with olive oil (15 grains in 2 drachms), when given in a teaspoonful of milk, proves practically tasteless.

Bertignon advises calcium chloride as a hemostatic in hematuria, hematemesis, enterorrhagia and general purpura, claiming that it succeeds where ergotin and perchloride of iron fail.

Levassort treats varicose ulcers with powdered sodium bicarbonate and then tamponing with sterile gauze.

Moore has obtained favorable results from the use of quinine salicylate in grippe, rheumatism, herpes zoster and enteric fever.

Four to six ounces of milk of asafetida is very serviceable in the tympanites following laparotomy.

The local application of a solution of metallic iodine in acetone (4 in 10) is recommended by Gallois and Courcon as an abortive treatment of furuncles.

Chaddock has observed good results in Graves' disease from the use of salicylate of soda.

The local application of chloride of ethyl to the mastoid has been recommended for tinnitus aurium.

## Current Literature.

CONSTIPATION.—Dr. J. P. Tuttle (*Medical Examiner and Practitioner*, June, 1903) says: Usually the whole gamut of laxatives will have been run by the patient himself, before the physician is seriously consulted with regard to the treatment of constipation. The first duty of the attendant under such instances is to determine whether constipation actually exists or whether it is general. The patient should be questioned closely with regard to his habits and diet, in order to determine whether the amount of fecal passages is adequate in proportion to this. When such is found not to be the case, then he should study carefully whether this disproportion is due to functional or organic disturbances; in young children the cause will usually be found in improper diet, or some inflammation or malformation in the lower end of the rectum. In bottle-fed infants, constipation is frequently the result of deficient laxatives in the food. Many cases will be immediately relieved by the addition of sugar of milk in liberal quantities to the food. Where there is a contraction of the anus, a spasmodic sphincter, or a small fissure, dilatation of this aperture will usually result in complete relief. In older children and in delicate invalids, constipation is very likely to be developed by a too concentrated diet. Food from which all the rough and indigestible substances have been removed produces a very small fecal deposit and as a result the intestines have but little material to act upon; this becomes dry, adheres to the mucous membrane, and frequently develops the constipated habit. In such instances it is well to administer a rougher quality of food, such as whole wheat or rye bread, spinach, celery and other vegetables containing a large proportion of fibrous material. Where the stools are hard and dry, the free administration of water, along with a small quantity of glycerin two or three times a day,

will overcome this condition and re-establish the fecal passages. One or two glasses of hot water containing a small quantity of salt administered before each meal is frequently the most satisfactory treatment of the so-called costive habit.

Inadequate and inconvenient accommodations in homes, schools and public institutions are frequently the cause of constipation in the inmates. These matters should be carefully considered and remedied where possible. Lack of exercise, inactivity of the skin and kidneys, and indigestion may all give rise to deficient fecal movements. All such matters should be regulated before any surgical interference should be considered. It goes without saying that wherever there exists a palpable obstruction to the intestinal canal in the form of a stricture, pressure from the neoplasm by constriction of adhesive bands, these should all be removed as soon as possible.

TREATMENT OF CHRONIC DIARRHEA.—Chas. D. Aaron (*The Medical Age*, February 25, 1903) says:

In the treatment of chronic diarrhea I find that most of my patients before consulting me have used opiates in all forms without benefit. The question is, shall we give opium in such cases? The diarrhea arises in consequence of the irritation of the intestinal mucous membrane. For this reason as soon as we discontinue the use of opium the diarrhea will increase more than ever. We must do away entirely with opiates as long as decomposition is present and undigested food comes away in the feces. Our duty under these circumstances is the same as in any acute diarrhea—that is, to help the efforts of the intestine to get rid of its undigested putrefied material. We have an effective method for this purpose in stomach lavage and high colon irrigation. Washing out the stomach removes the material which irritates the intestinal mucous membrane. This is especially effective in atony, when the combined acidity is high and the



empty stomach acid. The washing out of the colon removes the irritating material. The irrigation is done with a long soft-rubber tube, to which a large glass funnel is connected. The patient should be lying down, preferably on the left side, with the hip raised. Three to four quarts of lukewarm water is used with the lowest possible pressure. The water runs in slowly by slightly raising the funnel, then lowering it and allowing most of the water to run away at once. Thus the feces, gas, mucus, and millions of bacteria, which have irritated the intestine, are removed. In severe cases with decided fermentation or excretion of a great deal of mucus, high-up colonic irrigation is imperative. If the diarrhea occurs during the night, as is sometimes the case, the colon washing should be done in the evening. The diet in these cases is very important. All foods that leave much undigested residue must be avoided, for this maintains the irritation of the mucous membrane.

DIET AND ARTERIO-SCLEROSIS. — A. E. Powell (*Cincinnati Lancet-Clinic*, April 25, 1903) says:

Food for aged persons should be carefully selected, should be nourishing, and, while sufficient in quantity, must be of such quality and in such amounts that it will not leave much undigestible residue, or overtax the excretory organs. For these persons sudden changes in diet and irregular hours of eating are injurious and must be avoided. Intervals between feeding must not be too great, and coarse and tough food should not be given. The fact that nature deprives the aged of their teeth may be looked upon as a hint for them to moderate the amount of food taken, and to take only such foods as are easily masticated, and for these reasons false teeth may not prove an unmixed blessing. If the teeth are entirely absent the food should be minced or pounded, but care should be taken not to have it too finely subdivided, as mastication to a

certain extent is to be encouraged, in order to gain the benefit of the admixture of saliva with the food.

With these general considerations in view, the diet in each case of senility must be adapted to the peculiar needs of the individual by varying it within certain limits until the proper proportions among its constituents are obtained. Care should be taken at the same time to avoid monotony, and as much variety as is compatible with the maintenance of a correct standard should be sought. Avoid over-eating, constipation, or anything that will upset the equilibrium of the vital processes.

EXTERNAL PREPARATIONS AND THEIR THERAPY. — Carl N. Hallberg (*Journal American Medical Association*, April 11, 1903) says of plasters:

This most ancient form of medication has largely fallen into disrepute during recent years, owing partly to their ineligibility and uncertainty of action, and partly to the advent of more efficacious and more quickly responsive methods of treatment. The advent of the rubber plasters has also caused the lay public, which believes in "anything that will stick," to appropriate the plasters as its own sovereign remedy for all kinds of aches and pains.

Nevertheless, the plasters serve a useful purpose owing to the great range of their application, which may be summarized in the following groups:

1. *Epidermatic*: Supportive, protective, antiseptic, counter-irritant, vesicant. Vehicle: Rubber or any suitable adhesive.

2. *Endermatic*: Anodyne, astringent, alterative, resolvent, sedative, stimulant. Vehicle: Oleates or lead plaster, sometimes with resins or gum-resins.

3. *Diadermatic*: For constitutional or systemic effects. Vehicle: Lanolin or plaster-mull.

The vehicle for the commercial rubber plasters is chiefly India-rubber, or caoutchouc, with sufficient orris powder and

sometimes gum-resins to give it the proper consistence and retain its adhesive properties. For epidermatic purposes this serves admirably as a convenient and fairly stable adhesive, but since it lacks penetrative properties in any considerable degree, it should not be used for endermatic effects, such as are sought from drugs like belladonna. The suggestion to increase the efficacy of rubber belladonna plaster by the addition of boric acid would seem also to support the view that such anhydrophile mixtures do not penetrate into the skin, as has also been clinically demonstrated.

For endermatic effects the oleates, as represented by the well-known lead plaster, are the best vehicle, since they penetrate into but not through the skin, and thus have the desired effects without producing any systemic or constitutional results. The objection to the old-style plasters, with a lead-plaster vehicle, that they are impaired by age, become brittle and lose adhesiveness, has been met by improved methods of manufacture affording an adhesive plaster which retains its flexibility and through the admixture of a little rubber adheres without being artificially warmed.

For diadermatic or systemic effects the vehicle for plasters should be animal fat, such as lard or suet with waxes, or preferably mixtures of these with lanolin, substantially like the plaster-mulls of Unna. The official mercury plasters, at present made with lead plaster and gum resins, should be prepared with this lanolin vehicle.

HEALING OF GRANULATING SURFACES BY APPLICATION OF COBALT-AURATE ANIMAL MEMBRANE.—Warren B. Outten (*St. Louis Med. Review*, May 23, 1903) in an article states: Large and perfectly cleaned sheets of gold beater's skin are selected. The sheets thus selected are put in hot sterilized water—not boiling water—water sufficiently hot so as to not interfere with the texture of the skins—from 98° to 100° F.—a stream

of hot water preferred. After having remained in the hot water sufficiently long so as to cleanse them, they are taken from the hot water after being squeezed as free from water as possible. A solution having been made of the following agents:

|    |                     |    |
|----|---------------------|----|
| R  | Cobalt chlorid..... | 3j |
|    | Gold chlorid.....   | 3j |
|    | Aqua dest.....      | 3x |
| M. |                     |    |

is now ready, the skins are put in this solution so that the solution perfectly covers the skins in whatever container is used.

After the skins have been put in the container holding the cobalt-aurate solution, two ounces of oil of cassia is poured in on the skins immersed in the cobalt-aurate solution.

The reason for using the solution herein mentioned is the consequence of lengthy experience extending over four years. It is necessary in the chemical treatment of the gold beater's skin to use substances which will not rob this animal tissue of its integrity nor interfere with its elasticity. After experimenting with various chemical salts, namely the chlorids, we have found that the combination of cobalt chlorid with gold chlorid will keep the skin in good condition indefinitely. The bichlorid of mercury has a tendency to destroy its texture. The treatment of granulating surfaces with the gold chlorid and the cobalt chlorid has received no attention.

LOCAL TREATMENT OF PSORIASIS.—Dr. John F. Shoemaker (*The Medical Bulletin*, June, 1903) says:

There are some who depend entirely upon topical measures, but this, I think, is a woeful error. Some energetic agents—green soap, chrysarobin, pyrogallol—may, indeed, remove the scales and blanch the affected regions. Even friction with sand will free the surface from its epithelial accumulations. But this is not a cure. The lesions soon reappear unless constitutional treatment is added.

I willingly admit the advantage of clearing the surface of scales as a prelim-

inary to further measures, which shall be chosen with a view to diminishing the inflammation and infiltration. Agents of a more or less stimulating character have this power. They awaken the activity of the absorbent system. Among such substances those which I am most accustomed to employ are: carbolic acid, creosote, betanaphthol, tar, turpentine, and the mercurials. The oil of cade is a worthy substitute for crude tar. The odor and discoloration produced by tar are disadvantages, and you must never forget that tar may give rise to toxic results through absorption. Nevertheless, I decidedly prefer tar to chrysarobin or pyrogallol, which, in fact, I rarely prescribe.

In the case now before us the cause is confessedly obscure. I see the patient for the first time to-day, and his general health seems to be satisfactory. It will be a good plan to place him upon potassium iodide for a while and note its effects. He shall be given 10 grains three times a day in 2 drachms of compound syrup of sarsaparilla. Externally he shall make use of:

|           |                                 |      |
|-----------|---------------------------------|------|
| R         | Olei cadini. ....               | 3 j  |
|           | Resorcin. ....                  | 3 ss |
|           | Acidi salicylici. ....          | 3 ss |
|           | Ungt. hydrargyri nitratis. .... | ss   |
|           | Ungt. aquæ rosæ, of each. ....  | 3 ss |
| M. et ft. | ungt.                           |      |

SCARLET FEVER.—G. W. Waters (*Columbus Medical Journal*, June, 1903) writes as follows:

For the headache, pains, and early fever, phenacetin should be given in doses sufficiently large to relieve. Most physicians give this drug in too small doses. Dover's powder may be given for the same purpose. The patient should be given a warm cleansing bath at least once daily. No objection to using soap and water freely. Bathing lessens temperature, itching and burning of the skin, and often relieves restlessness. Ordinarily some mild febrifuge, such as acetate of ammonia combined with sweet spirits of nitre in syrup of orange, may be given. When the fever ranges very high, cold sponging and even the cold baths have been used

with benefit. The fever, however, is of comparatively short duration and has less significance than in more prolonged disorders. The bowels should be moved daily. Aromatic cascara is an excellent laxative for either children or adults. During convalescence, particularly after a severe or prolonged attack, a mild iron tonic is indicated on account of anemia. In the average attack, after ten days, the patient feels quite well and begs to leave the bed. There can be no valid objection to the sick leaving the bed, and sitting or playing about the room, providing the most rigid care is used to prevent taking a cold. The diet of the average case may be liberal except during the height of the attack. Milk, broths, albumin lemonade, milk toast and the like. When the fever has subsided, the diet may safely consist of a greater variety, including the substantials. In the severe types with toxemia, supportive measures must be employed. Brandy in sugar and water is easily given to even small children. The physician should fit the dose to the demands of the individual case.

The anginose type requires special treatment of the local lesion. The throat should be sprayed or gargled every half hour or hour with any one of the common antiseptics, such as borolyptol, glycothymolin, or, for that matter, a simple boracic acid solution. When there is infiltration of the cervical glands, hot applications appear to give relief, and probably hasten resolution. If suppuration is inevitable, heat hastens the process. Extensively involved throats, in which there is ulceration and sloughing, should be kept as clean as possible. The strong antiseptics are advantageous. I have used a 50-per-cent. solution of hydrogen dioxide with satisfactory results. It may be either sprayed or gargled.

SUPRARENAL THERAPY.—*The Intern. Jour. of Surgery* states that no fact is more conclusively proven than the remarkable hemostatic effect of the extract and active



principle of the suprarenal glands, and yet it seems strange that they should still be comparatively neglected by the profession at large. They are more effective than the salts of iron and leave behind no filthy mass of blackened, coagulated blood. Unlike the actual cautery, their application is painless and causes no destruction of the tissues. To sum up the virtues of the suprarenal gland as a hemostatic, in a word, it is ideal. It has proved valuable in nose and throat surgery, has been employed within the uterine cavity in post-partum hemorrhage with success, has stopped persistent bleeding from rectal ulcerations and cancer, from ulcer of the stomach, from epithelioma of the tongue, from cancer of the uterus and vagina, and this may be said of every form of bleeding in which the leaking vessels are not so large as to make ligature immediately imperative. Indeed we may well venture to term it one of the most valuable biological products that science has of late years discovered, and it is not without a certain amount of surprise that we realize how comparatively small a place it has yet assumed in that branch of emergency work which has to deal with sudden and dangerous hemorrhage, which, as we all know, so often occurs in regions and under circumstances in which direct surgical means are either unavailable or impossible to adopt.

**PRESCRIPTION INCOMPATIBILITIES.**—Wm. J. Robinson (*The Medico-Pharmaceutical Critic and Guide*, March, 1903) mentions among others the following:

|                          |        |
|--------------------------|--------|
| Antipyrini.....          | gr. xl |
| Spir. ætheris nitr. .... | ss     |
| Spir. frumenti.....      | ss     |
| Syr. Tolutani.....       | 3 i    |

S.: 3 i q. 2 h.

This prescription should not be dispensed under any considerations. Antipyrine with sweet spirit of niter forms a grass-green solution which is claimed to be poisonous. The exact nature of the compound formed has not as yet been established. The poisonousness of that

compound has also been disputed of late, but it is best to be on the safe side, and not dispense the combination.

|                     |      |
|---------------------|------|
| Antipyrini.....     | 3 ij |
| Sodii salicyl. .... | 3 iv |

Div. in pulv. No. xii.

Antipyrine and sodium salicylate should not be prescribed in powder form, as liquefaction often occurs, especially in damp weather. I have seen this prescription dispensed, and when the box reached the patient, there were only a few thoroughly soaked papers in it; the patient had to send for other powders. I reported a case in the *New York Medical Journal*, where the prescribing of just those powders had rather disagreeable consequences for the physician.

|                         |         |
|-------------------------|---------|
| Potass. iodidi.....     | 3 ij    |
| Syr. ætheris nitr. .... | iss     |
| Syrupi.....             | i       |
| Aquæ.....               | ad 3 iv |

S.: 3 i q. 3 h.

Potassium iodide and nitrous ether should never be prescribed together, because iodine is set free by the acids usually present in the niter. No matter how fresh the spirit of nitrous ether may be, the liberation of iodine and discoloration of the mixture are sure to take place within a very short time. Neutralizing the spirit with potassium bicarbonate will not remedy the evil. I experimented in that line, but never succeeded in making a permanent mixture from those two ingredients. The question in a recent board of pharmacy examination: "What happens in a mixture containing potassium iodide and a decomposed sample of spirit of nitrous ether?" is therefore misleading, as there is no line of demarcation between a decomposed and a non-decomposed sample of sweet spirit of niter.

**TREATMENT OF PNEUMONIA.**—H. B. Stanley (*Pacific Medical Journal*, April, 1903) says: Before I commenced to prescribe nitroglycerine in pneumonia, I lost about five per cent. of my cases; but now my average death-rate in that disease is less than one per cent. Especially is the effect of

this drug remarkable in children and in debilitated alcoholics. I make it a part of my routine practice to give from  $\frac{1}{100}$  to  $\frac{1}{10}$  grain of nitroglycerine, tablet form, every four hours from the appearance of the first symptoms until the crisis is passed, and the pulse becomes slower than normal. By the use of this drug no case of uncomplicated pneumonia need last longer than seven days, and often four to five days will see the patient convalescent. Are any other remedies necessary in the treatment of this disease? Yes, surely. Each dose of glonoin should be accompanied by from three to six grains of quinine. This should be given every four hours. If the fever be high the following prescription will be of great service and will render the patient much more comfortable:

R Antipyrin..... 2 ii  
Tinct. digitalis..... 2 ii  
Aqua camphoræ..... i  
Syr. tolu..... q. s. ad 3 ii

M. Sig. Teaspoonful every four hours while there is fever.

As an application to the chest the following prescription will be of service, and will render the atmosphere around the patient sterile:

R Ol. cassiæ,  
Ol. caryophylli,  
Ol. bergamottæ,  
Ol. eucalypti..... 3 iiss  
Ol. sassafras..... i  
Ol. gossypii sem. .... q. s. ad 3 viii

M. Sig. Anoint the whole chest night and morning, and apply all over the whole chest two layers of sheet wadding.

Regardless of the condition of the bowels the patient should have ten grains of calomel each day. Should the bowels move too freely, from the calomel or any other cause, the following prescription will be of service:

R Bismuth subnitr. .... 3 ss  
Tinct. opii camph..... q. s. ad 3 iii

M. S. Shake well and give a teaspoonful after each evacuation of the bowels.

Should the cough be harsh and dry, the following prescription will be of service:

R Ammonii chloridi..... 3 ii  
Syr. ipecac..... 3 ii  
Syr. prun. virg. .... q. s. ad 3 iii

Sig. Teaspoonful every two hours while coughing badly.

After complete defervescence, as a tonic the following will be as good as any:

R Syr. hypophosphites comp. .... 3 iv  
Sig. Teaspoonful before each meal.

With the foregoing treatment carried out and modified to suit different cases, no physician need fear pneumonic fever. If the patient be weak and anemic, a strong egg-nog three times a day will do good. As a last warning I will add: *avoid all depressants in pneumonic fever unless thoroughly guarded by a powerful excitant.*

TREATMENT OF SCIATICA.—G. L. Bailey (*Cincinnati Lancet Clinic*, May 23, 1903), in an article on this subject, states that in the treatment of acute cases the patient is placed in the reclining position in the hot-air machine, all of the body except the head being inclosed. The affected leg is bolstered up with pillows in the most comfortable position, and the temperature in the machine allowed to rise slowly from the room temperature to from 240° F. to 260° F., according to the toleration of the patient. During this process he is encouraged to drink freely of cool water, and iced cloths are kept on the head. Sweating is usually profuse after 220° F. is reached, and the heat usually affords great relief from the pain. In this manner the heat is applied for about one hour, after which the patient is given an alcohol rub and put back in bed, splints or pillows being used to hold the limb in a comfortable position. After from five to eight treatments, given usually on successive days, the pain has been sufficiently relieved to allow gentle massage after the bath with firm pressure over the nerve at its point of exit from the pelvis. As the pain subsides the massage becomes deeper and harder, and passive movements are gradually used to strengthen the muscles and prevent contraction. From two to three weeks of this treatment is usually sufficient to entirely relieve the pain in the most severe cases, the subsequent recovery being brought about by exercises by the patient

himself and by massage and passive movements.

The treatment of the chronic cases is the same as long as movement is at all painful, except that the massage is more vigorous. Nerve stretching is accomplished by deeply grasping the muscles of the thigh while the patient lies upon his face and the nerve is forcibly pushed and pulled by the operator. The patient is then turned on his back and the thigh flexed on the abdomen with the leg extended. These movements afford great relief from the stiffness and sense of contraction so frequently complained of by sufferers from sciatica long after the acute suffering has passed away. Massage and electricity, both galvanic and faradic, are of service in restoring the tone to the atrophied muscles, and the circulation to the nerve. The patient is instructed to exercise the leg at home by lying flat on the bed and slowly flexing the thighs on the abdomen with the legs extended, repeating this from six to ten times morning and evening.

CHROMIC ACID.—J. E. Schadle (*International Medical Gazette*, Feb., 1903) says :

Of all the acids recommended and used for the destruction of redundant tissue of the nasal passages chromic acid is by far the best and most practical. Its use is indicated in cases in which simple chronic dilatation of the vessels or puffiness of the mucous membrane exists. Its value lies in the property it possesses "to pin down" (Bosworth) the distended mucous membrane to the bony structure underneath, thus overcoming to a great extent vasomotor paralysis and difficult respiration. In the intumescent variety of the disorder, or that condition of the mucous membrane where pronounced puffiness of the part is the case, the application of chromic acid fulfills an admirable purpose. I believe it is the remedy *par excellence*, and should always be resorted to whenever the pathologic indications require it. But after connective tissue alterations have

taken place and the sub-mucous structures have become dense and more or less unyielding to pressure contact, chromic acid no longer holds a place of any importance in the treatment of the malady.

PUERPERAL MASTITIS.—A. E. Gurd (*Detroit Med. Jour.*, June, 1903) states the following :

Given a case with a history of a sudden chill, followed by an elevation of temperature, a general sense of malaise, a breast presenting one or more tender spots, which may, or may not, be hard, with a certain amount of discoloration of the skin ;—ascertain, if possible, whether or not pus is already present, but, unless the indications of pus are very clear, temporize and institute treatment as follows :

First, systemic ; giving a saline cathartic to relieve the engorgement of the breasts ; aconite in small, repeated doses, to allay the fever ; and opium, if necessary, to abate the pain.

Then, localizing, massage the breast very gently, but firmly and systematically, working in the line of the milk ducts and reducing friction by the use of an emollient. Ten minutes' thorough massage usually gives great relief to the patient, unless the mastitis is of the interstitial variety. As the diagnosis of the varieties is rather difficult, massage should be tried in all doubtful cases, and if it fails to decrease, or if it increases the pain and soreness, it should be discontinued. After the massage apply a firm binder, and outside of this, continuously, either ice or dry heat, whichever is best borne by the patient, leaving the breast otherwise undisturbed for one or two hours. Then repeat this process, in addition drawing a certain amount of milk, if necessary. In many cases, however, the massage, properly applied, will draw off sufficient milk to render other means superfluous.

If the patient improves, even slightly, under this treatment, continue it day and night, gradually lengthening the periods of abstention from massage, until the congestion has entirely disappeared.



**COCAINE IN THE NOSE.**—It may be said that clinical experience warrants the belief that cocaine in spray form can safely be employed if limited to a few gentle puffs of a 1 per cent. aqueous solution. If used on the cotton-tipped applicator, a 5 per cent. solution should be the maximum strength employed. It should be applied carefully and accurately, half a minute at least allowed between the applications, and the tissues should be repeatedly inspected, touched and tested, so that no more cocaine than is necessary shall be applied. Adrenalin chloride solution should be employed to aid in bringing about the effects desired. If due attention is paid to these directions, no one need fear any untoward result from the local use of cocaine.—Wm. G. B. Harland.

**ECLAMPSIA.**—E. A. Ayers (*New York Med. Journal*, May 23, 1903) says:

If the patient has had only one or two convulsions and that without much impairment of her various functions, we can often stop these convulsions by prompt eliminative treatment; whereas, if we greatly blunt the nervous system with narcotics, lessen the response to elimination and render it a failure, unless we add immediate delivery, and perhaps, blood-letting. Likewise, if we wish to put a temporary stop to the convulsions by elimination mostly, and then undertake delivery of the child, this latter effort may be such an irritant as to offset the anticonvulsive effect of elimination, and so permit the convulsions to continue to a point where their consideration is supreme. While the number of cases in which this plan of treatment may be advisable is small, it should always be followed when it seems applicable. If the effect which the convulsions have had (it is the effect and not their number which we should consider) is not marked, the mind being clear, the pulse under 100, and the convulsions not occurring oftener than every hour to two hours, I favor immediately giving a saline cathartic by the

mouth and a high saline solution in the bowel. The latter will not only favor an immediate emptying of the lower bowel and stimulate peristalsis, but will excite some sweating and diuresis. Hot packs, water-bags, wet blankets and sheets must be used with reserve. They can be so used as to excite convulsions, or, later, assist profound heart depression. If the case presents the highly nervous type, restlessness, tossing, and mental activity, I favor the administration of twenty to thirty grains of chloral *per rectum*, seeking not narcosis, but removal of nerve tension. Nitroglycerin,  $\frac{1}{100}$  of a grain, should be given at the start, and repeated as needed.

If free catharsis is secured and the secretion of urine is not suppressed, and the frequency or severity of the convulsions is lessening within from an hour to two hours, I would not touch the uterus or administer narcotics. Oxygen and injection of saline infusion into the subcutaneous tissue are indicated, the first to antagonize the degree of asphyxiation caused by the convulsions, and the second to further elimination. If, following this treatment, the attack ceases, eliminative treatment should be continued with lessening severity for one or two days, the diet being reduced to milk alone. Numerous examinations of the urine should be made, and judgment passed whether the kidneys are approaching normal function or not. If not, then labor should be induced by use of the bougie and not by rapid dilatation.

**TURPENTINE.**—As a diffusable stimulant, as a helper of torpid eliminating organs, as an intestinal antiseptic and anthelmintic, as a prophylactic against intestinal ulceration, perforation, and hemorrhage in typhoid fever, as a checker of bleeding any time and anywhere, there is nothing better than turpentine.

Ljenewitsch, of St Petersburg, has used turpentine as a hemostatic in uterine fibroids, inflammatory hemorrhages, the

hemorrhages of the climacteric, and in all cases where uterine abrasions have to be dealt with. His procedure is as follows:

The cervix is exposed with a valve speculum. The cervical canal is cleansed with phenolized glycerin (1 in 3). Then dilatation is effected with a catgut bougie (minugia), and a tampon of iodoform gauze dipped in turpentine is introduced, so as to fill the entire uterine cavity. He has used this method for five years, with positive results in all cases, while he has never noticed any ill results.—*The Medical Mirror*, April, 1903.

CHOICE OF ANESTHETIC IN ADENECTOMY.—C. H. Knight (*Intern. Journal of Surgery*, May, 1903) says:

Of general anesthetics only four in common use need to be considered: chloroform, ethyl bromide, nitrous oxide, and ether. In deciding upon one of these we have to take account in the first place of the comfort and safety of the patient, and, secondarily, of the convenience of the operator. In view of the acknowledged fact that accidents with *chloroform* are more numerous than with any other anesthetic, and in the face of abundant proof that it is especially dangerous in lymphatism, there seems to be no excuse for its continued use in adenectomy. The effects of *ethyl bromide* are rapid but transient. It is not irritating to the air tract, recovery is prompt, and there are no ill after-effects. No special inhaler is required, the drug being given from a cone in full dose from the outset, that is, to children under three years one drachm, and proportionate doses up to three drachms for adults. In complicated cases the period of anesthesia is too short, in many it is very imperfect, while in others an annoying condition is met with in firm fixation of the jaws which prevents insertion of the gag. The latter may be obviated by putting in the gag before giving the bromide, but this preliminary does not tend to reassure a timid patient. The disadvantages of ethyl bromide narcosis are

first, that certain individuals are resistant to its action; second, that the duration of unconsciousness is too short; third, that it sometimes provokes an alarming suspension of respiration and heart action; and finally, that it causes an extreme degree of muscular rigidity. From the standpoint of safety this drug is apparently free from objection, although the number of cases in which it has been used does not as yet compare with the total of the other anesthetics mentioned. Several fatal cases are on record, but in none of them is ethyl bromide fairly chargeable with the result. Only one of these was an adenectomy, and all were adults. The only valid objections to *nitrous oxide* seem to be that its period of narcosis is rather brief, and that its administration necessitates the use of a somewhat cumbersome special apparatus. The criticisms that it causes an appearance of asphyxiation, and that it necessitates keeping the patient in a recumbent position throughout the operation, are too trivial to merit notice. It is admittedly the safest of all agents of this kind. When followed by the inhalation of *ether*, after the first stage, we have an ideal combination which offers every advantage, with a single exception. Apparently hemorrhage is somewhat more free. Yet it is difficult to make an estimate in this particular, and, moreover, it is seldom a matter of vital importance, since it is surprising how rapidly the lost fluid is renewed under the improved conditions in which the patient has been placed by the operation. It must be confessed that ether alone has many unpleasant features, but, when preceded by laughing gas, an agreeable, rapid and safe anesthesia is ensured. An item of no little importance is that by this plan, when the Bennett inhaler is used, the quantity of ether consumed is greatly reduced, and disagreeable and disastrous after-effects are almost entirely abolished. The adoption of this mode of anesthesia largely dispels the terrors and risks of adenectomy.

## Book Notices.

A COMPEND OF HUMAN ANATOMY. By SAMUEL O. L. POITER, M.A., M.D., M.R.C.P., London. Seventh Edition, Revised and Enlarged, with 138 Wood Engravings; also, Numerous Tables and Sixteen Plates of the Arteries and Nerves. Philadelphia: P. Blakiston's Son & Co., No. 1012 Walnut Street. 1903.

Scarcely a medical student has not at some time or another had recourse to the use of a quiz compend on anatomy, if only to "brush up" or to keep better arranged in his mind the knowledge derived from the larger volumes. The objects and arrangement of this compend do not differ materially from others published, and for the use of students or practitioners preparing for special examinations it meets a certain need. The volume is cheap, portable and neatly prepared.

A COMPEND OF DISEASES OF THE SKIN. By JAY F. SCHAMBERG, A.B., M.D. Third Edition, Revised and Enlarged, with 106 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1903.

Quiz compends are particularly serviceable in dermatological studies because, unless one is specially interested, the larger works confuse rather than instruct. The present little volume, now in its third edition, abounds in short, accurate, and essential descriptions of the various conditions. Many clearly-defined tables of differential diagnosis are given, and the illustrations are in keeping with the general excellence of the text. Almost every page presents useful formulæ, and the less important conditions are relegated to the rear. This book, designed for the use of students and general practitioners, is deserving of the patronage accorded the former editions.

### PUTREFACTIVE DIARRHEA.—

R Tannigen..... 3 i  
Bismuth subgallate ..... 3 ij  
Salol ..... gr. xxiv  
Denarcotized ext. of opium .... gr. iij

M. Ft. in caps. No. xii.

Sig. One *t. i. d.*

—HEMMETER.

## SELECTED PRESCRIPTIONS.

### ACTUE DIARRHEA.—

R Tannalbin..... 3 iss  
Pulv. opii..... gr. ij  
Bismuthi  $\beta$ -naphthol..... 3 i

M. ft. chart. No. xii. Sig.: One powder q. 2 h.

—*Philadelphia Medical Journal.*

### ECZEMA IN CHILDREN.—

R Zinc. oxid..... 3 ij  
Ung. picis liquidæ,  
Ung. aquæ rosæ ..... āā 3 ss  
Lanolin ..... 3 i

—STARR.

### BURNS.—

R Orthoform,  
Aristol ..... āā 3 i  
Boric acid..... 3 i

M. Sig.: Dust upon surface. —LITTLE.

### WARTS.—

R Sulphur subl..... 3 v  
Concentrated acetic acid ..... 3 iiss  
Glycerine ..... q. s. 3 ij

M. Sig.: Apply on small pieces of linen.

—*Surgical Clinic.*

### DISINFECTANT FOR FECES IN TYPHOID.—

R Corros. subl..... 3 ij  
Hydrochloric acid ..... 3 x  
Water ..... c i

—FOOT.

### HEMORRHOIDS.

R Ext. belladonnæ ..... gr. xv  
Ext. opii ..... gr. x  
Ext. hamamelidis ..... 3 i  
Adipis..... 3 i

M. Sig.: Apply freely. —C. C. WILLIAMS.

### ASCARIS LUMBRICOIDES.—

R Olei chenopodii ..... m viij  
Olei ricini ..... 3 ss  
Mucilago acacia ..... 3 iij

M. Sig.: 3 i *t. i. d.*, a. c.

—*Medical Bulletin.*

### DIARRHEA.—

R Pulv. cret. comp..... gr. i  
Acid. tannic. .... gr. 10  
Pulv. opii,  
Pulv. camph..... āā gr. 10  
Cup. arsenit. .... gr. 100

—HASLAM.

### ACUTE BRONCHITIS.

R Codeinæ sulphatis..... gr. 10  
Antimonii et potassii tartrat. .... gr. 10  
Pulv. ipecacuanhæ et opii .... gr. 10  
Ext. gentianæ q. s.

M. ft. caps. No. i.

Sig.: One capsule every half to one or two hours.

—G. W. PFROMM.



# The American Therapist.

A MONTHLY RECORD OF MODERN THERAPEUTICS,

WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

VOL. XII.

NEW YORK, OCTOBER 15, 1903.

No. 4.

## Leading Articles.

### PICRIC ACID.

TRI-NITROPHENOL,  $C_6H_3(NO_2)_3OH$ .

By J. W. WAINWRIGHT, M. D., New York.

Picric acid is obtained by the action of strong sulphuric acid upon carbolic acid, and afterwards treating with nitric acid or sodium nitrate. It is soluble in water, making a yellowish-colored solution with a very bitter taste. Therapeutically picric acid has been used locally for burns, and in the various forms of eczema. Macdonald sums up the advantages of picric acid in burns: (1) Ease of application, (2) painlessness, (3) rapid repair, (4) absence of irritation, (5) more natural cicatrix.

Prof. Thierry<sup>1</sup>, Paris, after recalling the fact that picric acid, formerly extolled by Cheron, Curie and Vigier in the treatment of wounds, had fallen into disuse, insists upon the results which it gives as an antiseptic, analgesic and keratoplastic in the treatment of burns. Others have used picric acid in a number of surgical and dermatological affections upon the principle of keratogenesis and keratoplasty, as opposed to the keratolytic action of the majority of powerful antiseptics. Aubert, Brousse, Gaucher, Leredde, Macleman, and others, have used it for the cure of eczema. Thierry and Calvelli have shown the advantages it has in the treatment of erysipelas. Zoster is also amenable to it, and, upon the whole, the author believes that picric acid has a great future in dermatology. Moreover, he remarks in passing that dermatology will have made a great step in advance when it shall have banished two agents which are notoriously antikeratogenic—namely, the fats and wet

dressings. Saturated picric ether is superior to the watery solution of picric acid. In the treatment of blennorrhagia, Castea, Desnos, Scatarri and Vignerot have used picric acid. A number of other affections have been benefitted by it—purulent otitis (La Croix), lupus (Spanocchi), ulcers of the leg (Vaugrenet and others), blepharitis (Fage), phagadenic chancres (Hawthorn), chronic pharyngitis (Levassort).

Delebecque<sup>2</sup> discusses the results obtained by different observers in the application of picric acid to herpes zoster. Brilliant results from the application of an aqueous solution were obtained. The strength employed was 12 parts to 1,000, and it was applied freely to the affected area by gauze compresses or absorbent cotton. The compresses, wet with the solution, were retained in position by a roller bandage, which was removed after some days. Invariably there was found a very marked improvement in the local conditions. Others have treated herpes zoster with picric acid, but have employed ethereal or alcoholic solutions of much greater strength, the alcoholic solution containing ten per cent. of the acid, and the ethereal five per cent. These applications are followed by some pain, which disappears quickly. Brocard has prepared a collodion application composed of the following:

|                         |            |
|-------------------------|------------|
| Picric acid.....        | 75 grains. |
| Cannabine .....         | 25 grains. |
| Alcohol .....           | 2 drachms. |
| Ether .....             | 3 drachms. |
| Elastic collodion ..... | 4 drachms. |

Such an application has a marked sedative action, relieving the violent pains and the intense itching which sometimes accompanies zoster. It protects the part, and prevents the possibility of secondary infec-

tion. The crusts which are formed by this application are a valuable protection to the new epidermis.

Dr. Dakhyle<sup>3</sup> remarks that of all keratoplastic topical applications picric acid is the best. It has no toxic effect upon children and is inoffensive to adults. Its application is recommended from superficial burns to those of the third degree; it is contra-indicated in deep, old, or suppurating burns, and in very young children. The technic of applying picric acid ought to be followed minutely. It consists of antiseptic cleansing of the burn in a picric acid bath of one per cent, with a careful preservation of the epidermis. This washing is to be repeated, taking all possible care to avoid raising the epidermis. When burns are very superficial, remarkable cures have been effected by painting with ether or alcohol saturated with picric acid. In old or suppurating burns one can use picric acid and iodoform, thiol, and ichthyol. Picric acid may also be applied to burns occasioned by caustics or vitriol.

Dr. De Brun<sup>4</sup> recommends a solution of 0.5 to one per cent. for blennorrhagia. Five or six cubic centimeters are injected for a few minutes two to three times daily. A cure is said to be effected in four to five days. In chronic cases it is only efficacious when the disease is situated anteriorly. Bacteriological examination shows a rapid diminution in the number of gonococci.

S. R. Miller<sup>5</sup> considers this the best local application for burns of the second degree; it coagulates albumin, diminishes the serous discharge, and hastens the reparative process. In burns of the third degree it limits suppuration and hastens the exfoliation of necrotic tissue.

C. W. Allen<sup>6</sup> says that as a local application he knows at the present time of no more promptly and beneficial a drug than picric acid for burns of the first and second degrees; in one per cent. solution it gives almost immediate relief from pain, and healing rapidly takes place.

Dr. Hill<sup>7</sup> has used in a number of cases of posterior gonorrheal urethritis, with presence of fibre floating in the urine, picric acid, 1:1,000 or 1:2,000. About sixty minims should be used at one instillation.

H. De Brun<sup>8</sup> has used solutions of 1-100 and 1-200 as injections in acute and chronic anterior urethritis. Injections are given one to three times a day, and a cure is said to be effected in four or five days. In posterior urethritis it is useless.

J. Sobel<sup>9</sup> has found a one per-cent. solution, preferably in the form of Esbach's reagent, of great utility in relieving the pain and smarting of dermatitis benenata.

J. F. Romero<sup>10</sup> treated one hundred and sixty-two cases of smallpox with lotions or salves of picric acid. Of these forty-six recovered without noticeable scars, and one hundred and one without any signs of pitting. The lotion is composed of picric acid, 2.0; alcohol, 15.0; water, 185.0.

The *Journal de Medecine de Paris*, April 19, 1896, recommends the following:

R Picric acid, 4 grains;  
Vaselin and lanolin, of each,  $\frac{1}{2}$  ounce.

Or,

R Picric acid, 15 grains;  
Lanolin or vaselin,  $\frac{1}{2}$  ounce.

This preparation, it is said, will cure in a few days pruritus of the scrotum that have lasted for years. Owing to the toxic properties of the picric acid, feeble applications are necessarily made, and two applications of the salve in one day are sufficient.

J. Winterberg<sup>11</sup> reports a case of poisoning in a woman who took twenty-five grammes of picric acid solution; the symptoms were profuse diarrhea, hematemesis, and in two hours an intense yellow discoloration of the skin, nails, and cornea. The urine and feces showed picric acid. The general symptoms disappeared in nine days, the yellow color persisting for five weeks.

For the removal of stains produced by this drug, Brynk<sup>12</sup> recommends 10 parts of sodium benzoate, 40 parts of boric acid, and 1000 of water.

## LITERATURE.

- <sup>1</sup> International Medical Congress.
- <sup>2</sup> *La Presse Médicale*, December 16, 1899.
- <sup>3</sup> *La Progress Médicale*.
- <sup>4</sup> *Paris Letter Journal*, D. M. A., October 12, 1901.
- <sup>5</sup> *Railway Surgeon*, January 22, 1901.
- <sup>6</sup> *Pediatrics*.
- <sup>7</sup> *Medical Record's* Report of Meeting of Academy of Medicine, of March 21.
- <sup>8</sup> *Journal des Practiciens*, June 15, 1901.
- <sup>9</sup> *Medical Record*, November 5, 1898.
- <sup>10</sup> *Cronica Medica Mexicana*, August 1, 1901.
- <sup>11</sup> *Wiener Med. Presse*, 1900.
- <sup>12</sup> *Western Druggist*, XXIII, p. 311.

## A CONTRIBUTION TO THE THERAPY OF ENURESIS.\*

By JOHN ZAHORSKY, M.D., of St. Louis, Mo.

Enuresis is considered a very simple disorder, and, it is true, that in the vast majority of cases spontaneous cure is to be expected; but the practitioner will have all kinds of humiliating experiences in the management of these patients. What is a common experience under the ordinary text-book treatment?

The child improves temporarily, again relapses, the dose is increased, and again loses its effect. After a few weeks the parents grow discouraged and send for another physician.

In another case little or no effect is produced by the ordinary remedies. In the third case atropine poisoning becomes manifest; the parents, frightened, refuse to continue the use of the remedy.

In a small series of cases the treatment is effectual, but the larger number are not cured, even when the atropine is continued for months. After a few years, fortunately, most cases recover; exceptionally the weakness persists to manhood.

The pathological physiology of functional incontinence of urine or enuresis is still somewhat obscure. In individual cases it is often difficult to determine what

part of the urinary apparatus is at fault. And even to-day there is quite a controversy on the exact pathology of the disorder in general. Henoeh (1881) admitted that we know very little concerning nocturnal enuresis, and is in doubt whether it is a diseased condition or the result of habit. He believes that the immediate cause is either atony of the sphincter vesicæ, or a spasm of the detrusor urinæ. The former is associated with diurnal incontinence also. In most cases he assumes a hyperesthesia of the neck of the bladder. Still, he admits that psychical impressions have a marked influence in the cure of the disease.

This seems about the general opinion to-day, since most text-books lay stress on the irritable mucous membrane, spasm of the bladder, and peripheral irritation.

The treatment has in the main been entirely empirical, as based on the foregoing. Consequently, an enormous number of therapeutic agents have been more or less successfully employed.

It is my intention in this paper to review briefly the therapeutics of the past and give a treatment which has been fairly successful in my hands.

In the first place I will entirely ignore treatment made to restore local abnormalities, and also tonic treatment to increase the general nutrition. These measures are, of course, always indicated when local or general signs of disease are present. Then, too, I take for granted that indigestion and urinary hyperacidity have been corrected by appropriate dietary directions.

The older writers (West, Dewees, Eberle) recommended limitation of floods, preventing the child from lying on its back, tonics, cold sponging of the back and limbs, and in severe cases the tincture of cantharides was administered. This drug is not now used to any extent, but the other measures are recognized of great service.

It is curious how the older writers depend on this drug, the actual action of

\* Read by title before the Missouri State Medical Association. Reprinted from the *Interstate Medical Journal*, July, 1903.



which depends on the irritating qualities of the urine which it induces. While great stress was laid on the elimination of the irritating qualities of uric acid from the urine, the administration of cantharides was conceded to be very effective. The drug stood in the same relation to the therapeutics of enuresis, as belladonna stands to-day.

Some contradictory phases of the therapy appear.

Thus Charles Bell early in the nineteenth century made the statement that lying on the back predisposed to involuntary micturition, and various devices were employed to keep the child from assuming the dorsal recumbent position. Now this procedure is disregarded. Yet a recent writer (Hovenden, *British Med. Journal*, March 22, 1902,) again urges that the patient should be kept from lying on the back.

The various remedies used in the past may be classified as follows:

1. Measures to inhibit the contractions of the bladder.
2. Remedies to lessen the irritability of the neck of the bladder.
3. Remedies to diminish the acidity of the urine.
4. Means to lessen the quantity of the urine.
5. Measures to increase the tonicity of the neck of the bladder and the nervous system.

Bretonneau, according to Trousseau, made use of belladonna in the cure of enuresis, but the latter author first popularized it. Even to-day it is the most useful drug employed. Its effect is to inhibit the contractile power of the bladder, although it is said also to diminish the irritability of the bladder. The mode of administration varies, but it is recognized that large doses are necessary. While these large doses are effective, the cure is not permanent. Relapses are the rule. Holt recommends that the drug should be given for many months, but it is difficult to persuade parents to give it for many

months when they can see no special benefit after a few weeks.

It is probable that rhus aromatic and rhus glabra also have some effect in diminishing the irritability and contractility of the bladder. Hyoscyamus acts similarly, but less powerfully.

Remedies to inhibit the irritability of the neck of the bladder are numerous. Martin (*L'Union Medicale*, 1892) advocated the use of antipyrine. It has become a favorite remedy. Others have found the hypnotics beneficial—*e. g.*, choral, sulphonal, etc. Opium and its alkaloids have been used for this purpose.

The administration of alkalies and their citrates and acetates to diminish the acidity of the urine is a common practice. They also act as diuretics, and in this way diminish the quantity of urine at night.

Means to lessen the quantity of urine has not received sufficient attention. The older writers particularly urged that the ingestion of fluids be diminished, but Holt warns that this means renders the urine more concentrated and, therefore, more irritating. We know of no drug which inhibits the secretory power of the kidney, although both ergot and belladonna have been used for this purpose. The former drug certainly diminishes the flow in diabetes insipidis, and its therapeutic value in enuresis may depend on this action. Rhus aromatic and rhus glabra probably also diminish the secretion.

I have found that the secretion at night may be somewhat lessened by stimulating the kidneys in the day time; and I often prescribe some diuretic during the morning and noontime, followed by belladonna or other drug at night.

Measures to increase the tonicity of the neck of the bladder are commonly employed. Ergot and strychnine are the usual remedies for this purpose, although they must at the same time augment the contractility of the bladder.

Local measures are the passage of a sound, which probably causes a swelling

of the mucous membrane; application of electricity; and the injection of some irritant in the prostatic urethra.

Herbsmann gave us a very effective means, namely, the massage of the neck of the bladder through the rectum. Caillag had good results with this procedure, but I have found that it is rather a difficult treatment to introduce into a family. The child does not take kindly to it, and the parents object.

Discussion of the means to tone up the nervous system brings out the fact that there has always been a tendency to regard enuresis an affection which depends on an abnormality of the central nervous system. Inasmuch as the sphincter vesicæ and the levator ani are under control of the will, a strengthening of the cerebral inhibitory function is really the most effective treatment. Budge and Masso have shown that a contraction of the detrusor urinæ can be evoked by stimulation of the crura cerebri, medulla, or anterior columns. Even the earlier writers bring this out, and there can be no doubt that mental stimulation by shaming or chastising the patient often results in cure. Probably it is true, as Holt urges, that rewards are really more effective, and certainly they are to be recommended rather than the whip.

The stimulation to the nervous system is illustrated by a variety of treatments. Even Dewees (1835) used a blister to the sacrum with benefit.

The influence of cerebral function was clinically confirmed by Harkin (*Provincial Med. Journal*, 1887), who believed that a congestion of the medulla was the origin of the trouble. He blistered the nape of the neck with the liniment of cantharides and obtained the most remarkable results. It has often been pointed out that a change of residence, surroundings, companions, or occupation results in a speedy cure.

The lessened inhibition of the cerebrum is also shown by the symptom of Freud (*British Med. Journal*, p. 93, December 9, 1893; *Neural. Centralbl.*, December 21,

1893), to which little attention has been given, and which I have corroborated in a few cases. This symptom is a hyper-tonic condition of the crural adductors.

"To elicit the symptoms the child is seated with its legs on a table, its feet are then grasped and an endeavor is made to separate them as wide as possible in a longitudinal direction. In a typical case the adductor spasm at first is considerable, but soon yields; on releasing the feet the legs spring back into contact." Spasticity also is found in the quadriceps extensor on attempting to flex the knee. The resistance here is very pronounced at first, but quickly subsides. If flexion be thus repeated, only slight extensor tension is observed. This symptom is rare in normal children. He suggests that excessive spinal innervation of the detrusor and of the crural muscles may be a factor in the combination of symptoms. This probably again depends on insufficient cerebral inhibition as in spastic paraplegia.

Among recent writers, Thiemich has very forcibly emphasized the cerebral origin of enuresis (*Berl. Klin. Wochens.*, August 5, 1901). He argues that we cannot regard enuresis as a weakness of the cut-off muscle. He tries to prove that enuresis is only a symptom of a general nervous disorder; in other words, he regards it as a manifestation of hysteria. The proof he gives is that there is usually a neuropathic ancestry; that other hysterical symptoms are common; that epidemics occur in asylums and hospitals; that isolation of patient usually cures; that electricity cures, no matter where applied; that the hypodermatic injection of strychnin has a curative effect, but the same result may be induced by a hypodermatic injection of salt solution; that the operation for adenoids, which often cures, acts by suggestion; and unsuccessful therapeutic attempts make the chances of future cure less. He finds the surest cure is the isolation of the patient.

The treatment advocated by Pendergast (*N. Y. Med. Jour.*, July 11, 1896) acts as

a stimulant to the nervous system, and may be said to be a very powerful remedy for any hysterical tendencies.

The method employed in a boys' orphan asylum was as follows: The boy was stripped and placed standing in an empty bath tub. A basin, or a vessel with a spout to it like a watering can, was filled with cold water and poured over the shoulders and down the back of the subject. In nervous, delicate children, one dash of water was sufficient for an application; in the sluggish, phlegmatic lads, the dose might be repeated. The boy was immediately rubbed down, dressed in night clothes, and put to bed. Sponging the back with cold water does not have the same value as douching.

A few words more in regard to the connection between adenoids and enuresis. Grodich (*Arch. f. Kinderheilk.*, Bd. xx, Heft 3 and 4) thought he had discovered a connection between adenoids and enuresis. In a number of cases in which the adenoids were removed, the incontinence stopped. In four cases adenoids reappeared and with them the enuresis. Huber, in this country, has also written on this subject, and he even suggested some relation between the diminished intake of oxygen in patients suffering from adenoids and the blood supply of the cerebrum and spinal column.

In short, it may be said that the theory of cerebral involvement in enuresis is in the ascendant, and therapy directed to increase the inhibition of the cerebrum is the most rational. The practice of awakening the child at night to empty the bladder does not effect a cure. The child's will must be stimulated to retain it.

In conclusion, I will give the treatment which I have lately followed with considerable success:

1. Two doses of a diuretic during the day: One at 9 A. M. and the other at 2 P. M. Usually I prescribe the alkaline citrates with spirit of nitrous ether, but I have also used caffein and diuretin, and sodium benzoate.

2. Give one dose of atropine at night. Instead of atropine I have used rhus aromatic, also antipyrine.

3. I use Pendergast's method of douching the back.

It is too early yet to speak of the cases cured and the time which elapses before cure. This I reserve for a future communication.

### *THE DIAGNOSIS OF GONORRHEA IN THE FEMALE.\**

By WILLIAM B. SMALL, M.D.

Chief Surgeon of Gynecological Dispensary, Hospital of the University of Pennsylvania.

In considering the diagnosis of gonorrhea in the female, the general condition of the patient (married or single), her position in society, her surroundings and her own personal cleanliness must be taken into account. The diagnostician, on the other hand, must have had enough experience in the most common causes of non-specific conditions which give rise to frequent, burning, and imperative urination, as well as increased discharge, itching, and other symptoms more or less frequently found in different stages of gonorrhea in the female. To consider the diagnosis of gonorrhea in all its stages is extremely difficult. In some, the diagnosis is usually very easy, namely, the acute and subacute forms. In the chronic or so-called latent form the signs resemble so many non-specific affections of the female genitalia and, a satisfactory microscopic examination being unobtainable, the diagnosis often rests on the very unreliable history of the patient. (This does not necessarily imply that it is the intention of the patient to deceive; but the ignorance of the laity on the subject makes it impossible for them to give rational answers to the physician's questions.) If the subject be considered from the gynecologic standpoint, it is held by some that gonorrhea cannot be cured in

\* Reprint from *International Medical Magazine*, October, 1903.



the male, and that when once infected the individual is likely at any time, no matter how remote or what course of treatment has been instituted, to give rise to a subacute, chronic or latent form of gonorrhea in the female. From the genito-urinary standpoint, in its assurance that gonorrhea is curable, there is an entirely different view, considering most cases, when treated by a competent man in this special branch of medicine, to be cured. The above questions have been so abundantly discussed that the clinical diagnosis of the demonstrable forms of gonorrhea only will be attempted in this article.

The different forms of gonorrhea in relation to the parts affected and in the order of their frequency may be classed as follows: (1) Urethral; (2) cervical; (3) vaginal; (4) vulvar; (5) rectal. Another division may be made, as acute, subacute and chronic.

Acute urethritis first makes itself manifest after an incubation period of three to seven days, by itching and burning sensations of the parts. This is followed, in from twelve to twenty-four hours, by frequent, burning, and painful urination, accompanied at times by a slight increase in the temperature. Upon examination of the urethra, the meatus will be found red, swollen, tender, with some pouting of the lips. The discharge in the first forty-eight hours will be small in amount, and mucopurulent in character. Microscopic examination shows an abundance of epithelial cells and few pus cells, which are not well defined in character, no cocci in the field, the gonococci few in number, and, when seen, confined almost exclusively to the epithelial cells. The two-glass test will show pus in the first glass only. In making this test it is needless to say that the external parts and vagina should be thoroughly cleansed before it is attempted. In a day or so, the discharge assumes a more purulent character, associated with more pronounced symptoms of frequent, burning, and imperative urination, reach-

ing at times terminal hematuria and attacks of almost constant tenesmus. This is due to the rapid spreading of the infection along the entire urethra, which, on account of its anatomical structure, presents no obstruction to its spread. The examination of the discharge in the above stage will show it to consist almost entirely of pus cells in which numerous cocci are found, few epithelial cells, and an absence of any other cocci. In this stage, the two-glass test will show pus in both glasses and often blood in the second glass. The acute symptoms gradually subside in from ten to fourteen days, increased frequency of urination with slight burning only remaining. The discharge, small in amount, will be apparent only to those inclined to cleanliness. Examination of the urethra will show the discharge to be of a mucopurulent character, best obtained by pressure along the urethra in the region of Skene's tubules. The openings of these tubules will be found just within the meatus on the floor of the urethra, bright red in color, in the centre of which a minute drop of pus can be seen. Quite frequently the pus from these tubules is the only discharge obtainable, as the small quantity of the discharge has been washed away by a previous urination. Upon microscopic examination of this discharge, the pus cells will be found undersized, not well defined in character. A few epithelial cells and gonococci may be present, although the latter are seldom seen, and, when apparent, their well-known distinctive features are almost obliterated.

The continuance of the above symptoms and signs depends largely upon the individual. In some cases, where the urine is extremely irritating, just following a menstruation, an acute exacerbation of the above symptoms may occur. This is brought about, when cervical gonorrhea is present, by the increased virulence and irritating character of the cervical discharge at the menstrual period. In those cases where the cervix is not infected, the

discharge continues to the chronic stage without any apparent symptoms. In the chronic form of urethritis no symptoms will be present except in those where granular patches exist near enough to the sphincter to cause frequent urination. A very infrequent form of urethritis is found when the ulcerated parts are within the folds of the sphincter. This gives rise to increased urination, with marked pain and tenesmus at its close. This condition is only demonstrable with the Kelly or Skene endoscope. Chronic gonorrhea of the urethra is most frequently found in Skene's tubules and the follicles which open on each side of the meatus, especially described by Guerrin. Massage of the urethra will demonstrate the mucoid discharge at the mouth of Skene's tubules. The follicles of Guerrin have a "flea-bitten" appearance.

Cervical gonorrhea as a primary infection gives rise to no distinctive symptoms, and in no way leads one to suspect its presence. In those cases where the urethra, vagina, vulva, Bartholin's glands, or rectum are infected, an examination of the cervix should be made. On examination with the speculum in the nullipara, with no erosion of the cervix, the os will be found red and swollen, with more or less discharge, depending upon the age of the infection. In the multipara, with some laceration of the cervix, and the nullipara with erosion, the local inflammatory signs will be more prominent than those usually found normally in the above conditions, but no positive diagnosis can be made without the microscope. When cervical inflammation is seen in a young woman without any known cause, a careful microscopic examination will usually demonstrate its etiology. Gonorrhea in which the cervix alone is infected is seldom, if ever, seen. On account of the anatomical relations the infection of one or the other of the parts usually occurs. While the acute form is rarely apparent, the chronic form can usually be elicited. On account of the glandular condition of

the cervix, the infection is very likely to become chronic in the Nabothian glands. This chronic form is very likely to become subacute and the virulence of the microorganism much increased just after menstruation. This will often account for the almost inexplicable cause of infection in the so-called cured or healthy persons. The examination of a cervical discharge to which a suspicion has been drawn, or to demonstrate its inability to infect any one, should be made just after menstruation, if the cause of infection cannot be shown between the menstrual periods.

Gonorrheal endometritis. The symptoms of this condition resemble almost any form of subacute or chronic infection of the endometrium. The discharge or any of the accompanying symptoms are in no way diagnostic. A microscopic examination of the discharge is the only possible diagnostic procedure.

Gonorrhea of the vagina was once considered the only seat of this infection, but the more careful diagnosticians of later years, by cultures and microscopic examination of the vaginal discharges, show its relative infrequency. The epithelium of the vagina is of such a character that, unless under the most favorable conditions, this infection cannot exist. The only patients in whom acute gonorrhea of the vagina is found are very young girls not accustomed to sexual intercourse, and married women who have just entered the nuptial state. In cases where sexual intercourse has been indulged in for some time, the acute form is not seen. The incubation period of acute vaginal gonorrhea is from twelve to twenty-four hours, followed by a feeling of heat, with more or less itching. The vagina will be found red, dry and swollen. This will soon be followed by a muco-purulent discharge, gradually becoming purulent. The parts will be found very tender, mucous membrane swollen to such a degree that the introduction of a finger or speculum is almost impossible. Bearing-down pain will be experienced in the pelvis, increased by

any motion. This form of gonorrhea is usually associated with that of the urethra. In such cases the suffering of the patient is severe, with frequent urination irritating the already inflamed vagina. The acute form will usually subside in from seven to ten days, during which time it is usually possible to prove its etiology. After two weeks a microscopic examination of the discharge usually gives negative results. The subacute form usually has no distinctive characteristic; its association with other forms of gonorrhea leads one to suspect its presence. The signs are those of any subacute inflammation of a mucous membrane. The chronic form, which is usually found on the posterior vaginal wall, augmented by any cervical discharge, presents itself as a granular ulcerative condition. In some cases, when a poorly fitting pessary is worn, subacute and chronic ulcerative gonorrhea is seen all along the line of the pessary contact.

Gonorrhea of the vulva is mostly seen in the very young, or in infants. The source of infection is usually found in an attempt at rape, or in those in whom the reproductive organs are not well developed. The traumatism employed to accomplish the act aids greatly in its development. A few cases are seen in which the infection is secondary to the urethra or cervix, found mostly in those who use aqua and sponges infrequently. Gonorrhea of the vulva starts usually with itching and burning, at times accompanied with marked neurotic manifestations. This is soon followed by a muco-purulent discharge. Upon examination of the parts there will be seen marked matting of the hair all over the genitalia. On separating the hair the labia majora will be found to be red, swollen and tender with some erosion of the surface. An odor is often manifest resembling that found in balanoposthitis in the male. A microscopic examination of the discharge demonstrates the diplococci of Neisser. The amount of pain, swelling, and tenderness depends

largely upon the degree of traumatism employed at the time of infection. Gonorrhea of the vulva in infants is mostly seen in institutions where infection by towels is the most common cause. It is usually confined to the vulva, and is easily diagnosed by microscopic examination.

Gonorrhea of Bartholin's glands may be considered in the affections of the vulva. The diagnosis of specific infection of these glands must not be made without due care, as an inflamed condition of them is not necessarily specific in character, as it may be caused by traumatism, sexual excess, or some form of unnatural sexual gratification. It has been seen so frequently among the newly-married that some have given it the name of "bride's abscess." The onset of the symptoms is usually sudden, consisting of severe pain in the vulva, followed by rapid swelling of the parts. This swelling, on account of the anatomy of the part, is pear-shaped and exceedingly tender. In some cases the patient is confined to bed, as the pain is much increased by sitting or standing. The opening of the duct will be found red and swollen, with pus exuding. Quite frequently the abscess will burst spontaneously; but some will empty themselves through the duct. In each case it is quite prone to become chronic. In the acute form a microscopic examination of the discharge should always be made, to see if the infection be specific or non-specific. An examination of the urethra and cervix also should be included. In chronic inflammation of Bartholin's glands, the opening of the duct will have a "flea-bitten" appearance, to which the name of "gonorrheal macule" has been given. The duct itself can easily be felt to be markedly indurated, and, when patulous, a muco-purulent discharge is procured by massage along the line of the duct. In the chronic form there is no distinctive feature when the gonococcus cannot be found. Its specific nature can only be suspected when a urethral discharge is present.



Gonorrhea of the rectum is caused more frequently by backward flow of discharges than by unnatural practices. It manifests itself by itching and a feeling of heat in the rectum. Pain at stool and tenesmus are sometimes present. A discharge, muco-purulent in character, may be seen upon examination. The surface of the rectum is red and swollen, ulcerative foci are often present and quite extensive in character in those who are habitually constipated. In the acute and subacute stages the infective organism can be found. In the chronic ulceration of the rectum the diagnosis can only be suspected when another part of the genitalia is infected, or when a history of an acute attack can be elicited.

**TREATMENT OF HEAT EXHAUSTION.**—Wm. F. Waugh (*Virginia Med. Semi-Monthly*, June 26, 1903) advises the following :

The readiest treatment is by glonoin, 1-250 to 1-125 grain, dissolved in a few drops of water and inserted in the mouth, quickly absorbed by the buccal mucosa. It is even more speedy thus given than when administered hypodermically. The effects may be noted within a minute—the face reddening and consciousness returning. Keep the patient's head low. As the effects of the glonoin are evanescent, atropine, 1-250 to 1-125 grain, should be administered simultaneously. The effects of the latter are manifested more quickly when glonoin is given, the latter opening up the blood vessels and permitting speedy diffusion. Atropine also causes an afflux of blood to the head less promptly than glonoin, but the effect lasts several hours.

Meanwhile the general and profound vasomotor paresis is combated by brucine, of which a milligram (1-67 gr.) may be given every half hour till the desired degree of vascular tonicity is secured. Brucine acts more quickly than strychnine, and is, therefore, preferable here.

These attacks can readily be prevented. Begin with the vasomotor paresis, which,

by allowing the serum to transude the skin, causes digress of the blood and thirst, which, in its turn, is lashed to fury by iced drinks. Give these patients brucine, a milligram (gr. 1-67), and agaricin in the same or double the dose, taken together every hour during the day. Let each dose be taken with a tablespoonful of water, and forbid all other beverages, except four ounces of hot tea after each meal. Thirst may be relieved by chewing gum. This keeps the mouth and throat comfortably moist with saliva. Agaricin checks the sweating, while brucine meets the general and cardio-vascular relaxation. The addition of a centigram of phosphoric acid (gr. 1-6) to each hourly dose of brucine aids in restricting the thirst greatly, and is a useful tonic also.

A hot bath at bedtime is most grateful in hot weather, soothing the irritated nerves, equalling the vascular tension and disposing to sleep.

**WOUNDS.**—Frederic S. Dennis (*International Journal of Surgery*, May, 1903) says :

In the treatment of wounds a new plan has been adopted by the writer, who was impressed with the method witnessed in the Mayo's Clinic at Rochester, Minn. The subiodide of bismuth is sprinkled over the wound after it has been cleansed. This powder has antiseptic as well as anesthetic properties. A very great advantage is its behavior when the dressings are changed, since it forms a thin film over the wound and the dressings do not adhere to the raw surface, but come away without even causing the granulations to bleed. In varicose or other ulcers the powder is most useful, as the healing process goes on under the thin film and the laceration of the young granulation tissue does not take place on removal of the dressings. This powder was used in several cases of gangrene. The pain was much relieved by this application, and the patients experienced but little, if any, pain during the change of the dressings.

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## Editorial.

### DIAGNOSIS OF GALL STONES.

In these days of surgical progress, when operative intervention is fast becoming the rule rather than the exception in acute affections of the gall-bladder and biliary passages, the great importance of accurate diagnosis becomes apparent. The profession is meeting with the same experience in these diseases as it did in appendicitis, in that the affections are apparently becoming more common, when in reality it is our greater watchfulness and more adequate means of diagnosis which enable us to reach the proper conclusions in reference to diagnosis and subsequent treatment. None will deny that in some cases the diagnosis is simple; no more can there be any doubt that in other instances a diagnosis can be reached only after the most exhaustive differentiation, and in a certain percentage of cases indeed, only after an exploratory incision. In differential diagnosis many conditions demand attention—acute suppurative or gangrenous cholecystitis, cholangitis, ulcer ventriculi, gastric catarrh and neuritis, ulcer of the duodenum, renal mobilis, malignant disease of the stomach, gall-bladder, head of the pancreas, as well as pancreatic calculi, are some of the most prominent to be considered. Little won-

der then that the surgeons are directing their attention to the right hypochondrium and promulgating the dictum of "operate early." Unfortunately, there are some hyper-enthusiasts who would consider practically all cases of cholelithiasis as operative, a most radical view of the situation. The recent advances in the field of biliary surgery show very clearly that, with a careful and proper study of the cases, the mortality from these cases will be reduced very considerably.

WHERE IS THE PRACTITIONER, more particularly he whose experience brings him in contact with children, who has not at the one time or the other exhausted every means at his command for the relief or cure of enuresis, to find in the end his results are *nil*? It is unfortunate that the etiological factors in the production of this disorder have not been definitely established; hence our treatment must necessarily be largely empirical. We take the liberty of reprinting in this number a very concise and practical review of this subject, by Dr. JOHN ZAHORSKY, of St. Louis, Mo., and commend it to the attention of our readers.

HEMORRHAGE FROM WHATEVER SOURCE is always an occasion of great alarm to the laity, and often a cause of great anxiety to the physician. The occurrence of hemoptysis or hematemesis will almost invariably result in a "hurry call" for the nearest physician. A short abstract of an article by Dr. MAX EINHORN gives the indications for treatment in gastric and duodenal hemorrhage. It is worthy of note that valuable additions to our list of remedies for combating this symptom are found in gelatin and the preparations of suprarenal gland.

PICRIC ACID has lately been rediscovered, and the news of its usefulness in medical practice is now spreading rapidly. It is surprising how valuable some old discarded medicinal agents prove to be when

they have been laid on the shelf for awhile and are then found, studied, and applied with the intelligence of modern knowledge. Dr. WAINWRIGHT has kindly compiled some extracts from recent reports on picric acid for us, and the reader will no doubt find the facts instructive and the suggestions applicable.

GONNORRHEA IN THE FEMALE has been the subject of some interesting papers in this journal in the past. For various and obvious reasons the physician is not called upon to treat these cases until the disease is far advanced—and then treatment is not likely to accomplish the desired early relief. Dr. SMALL, in the paper reprinted in this issue, covers the ground very fully on "the diagnosis of gonorrhea in the female;" it is one of a collection of papers by numerous well-known specialists, treating the subject completely in all its phases, and published in the current issue of the enterprising *International Medical Magazine*. The interested reader will do well to read the whole series.

### THERAPEUTIC NOTES.

Small doses of salol and castor-oil are effective in the treatment of dysentery.

Intratympanic injections of pilocarpine are said by Gillman to be very effective in the catarrhal deafness from otitis.

In pruritic cases of leucorrhea Shoemaker recommends a bougie of camphor and lupulin, three grains each.

Huchard has found lactose combined with heavy calcined magnesia an excellent laxative, diuretic, and antacid.

A saturated solution of iodoform in aniline oil is recommended by Gray for otitis media purulenta chronica.

Krotoff has obtained good results from the use of copper citrate in trachoma, pannus and chronic conjunctivitis.

Half-drachm doses of sodium bicarbonate in vichy, repeated every half to one hour, are said by Little to abort acute coryza.

Veronal is a new hypnotic recommended by Lilienfeld in 0.5-gramme doses for hysteria, neurasthenia, hypochondria, and melancholia.

Gilbert and Herrscher claim that the pruritus attendant upon obstructive jaundice is greatly lessened by the internal administration of thyroid extract.

In puerperal ulcerations of the vagina and perineum the local application of liquor ferri sesquichlorati is very efficient but painful.

For localized pain in the chest the local application of a five-per-cent. guaiacol ointment is useful.

Burnet has obtained good results from the internal administration of ichthyol in pulmonary tuberculosis, chronic bronchitis, bronchiectasis, and pulmonary fibrosis.

Re has found a half-per-cent. solution of picric acid in equal parts of distilled water and glycerin a valuable remedy in acute gonorrhea.

### INFANTILE DIARRHEA.—

R Resorcin resubl. .... gr. xv  
Tannalbin ..... 3 ij  
Glycerin ..... 3 i  
Aq. cinnamom. .... q. s. 3 iv

M. Sig.: 3 i q. 3 h.

—*Columbus Med. Jour.*, July, 1903.

### GOUT.—

R Magnesii sulphatis ..... 3 iss  
Magnesii carbonatis,  
Potassii citratis ..... 3 ss  
Tinct. colchici semin. .... 3 i  
Aq. menth. pip. .... q. s. 3 i

M. Sig. One dose. —J. R. CLEMENS.

### TO ABORT A COLD.—

R Tinct. aconit. rad. .... 3 ss  
Spir. æth. nitr. .... 3 iij  
Potass. citr. .... 3 iii  
Aquæ ..... q. s. ad 3 i

M. Sig. 3 i every 4 h. —ZAHORSKY.



## Current Literature.

**PILOCARPIN IN SCARLET FEVER.**—E. W. Saunders says in the *Archives of Pediatrics* that the peculiar beneficent effect of pilocarpin in scarlet fever is due to its effects upon the saliva glands. Whilst the saliva is not germicidal, the constant moistening of the mucous surfaces by their own secretions keeps them in the best possible condition for defense against invasion. In hyperpyretic conditions hydrotherapeutic measures are our first resource and may be followed with benefit by the administration of pilocarpin. The first dose should be watched carefully, lest an idiosyncrasy be encountered. Evil effects may be obviated by a hypodermic injection of atropin. Subsequent doses should be graduated according to effect or height of temperature. Toleration is rapidly established.—*St. Louis Clinique*, May, 1903.

**STIMULATION IN CHILDREN.**—H. W. Cook in the *American Journal of the Medical Sciences* for March, reports the results of drugs used for stimulation upon the systemic blood-pressure. The routine stimulants were alcohol, strychnin, digitalin, and occasionally atropin. To infants over one month and under fourteen to sixteen months strychnin and digitalin were usually given in equal dosages;  $\frac{1}{400}$  grain to  $\frac{1}{200}$  grain, however, is not excessive, and especially in desperate cases it was necessary to produce an appreciable effect, while in infants of two years this sized dose is usually necessary to be effective. The response to strychnin was usually indicated by a rise in blood-pressure in from 10 to 20 minutes. Digitalin in equal doses seems to have a more immediate action than strychnin, rather more sure, and causes a higher rise in blood-pressure, which usually begins in from five to ten minutes and lasts from one to three hours. While the effects of alcohol were not uniform, many cases showed a gradual, steady, and well-maintained rise in blood-pressure under re-

peated doses of the drug, and at the same time showed improvement by general symptoms, so that the best effects from alcohol would appear to be the result of repeated doses rather than that of any individual dose. Where the demand for a stimulant is only moderate, it would seem best to start with alcohol in doses of from 5 to 30 drops, according to the age of the infant. It should be given well diluted, and repeated every two, three or four hours, as seems indicated. Besides what stimulant action alcohol may have, it is a food and acts as a conservator of energy, even where its stimulant effect is not apparent. The administration of alcohol thus seems the treatment of choice in the more or less toxic and marantic conditions in children, and if care is taken to avoid over-stimulation, or upsetting the stomach, a child can scarcely take too much. This form of stimulation may be all that is necessary, but in the case they do not improve, or they cannot take alcohol, strychnin is of great value in doses of  $\frac{1}{400}$  to  $\frac{1}{200}$  grain, repeated as frequently as the maintenance of a safe blood-pressure will allow. In sudden turns for the worse during a disease, in threatened collapse, in acute prostration, or other rapidly developing conditions of lowered vitality, always accompanied by low blood-pressure, digitalin is the drug of choice, followed by strychnin. Digitalin,  $\frac{1}{200}$  of a grain, perhaps repeated, will sometimes bring back an infant apparently on the verge of dissolution, and is best followed by strychnin, which maintains the rise in blood-pressure longer than digitalin alone; hypodermic administration of strychnin and digitalin is most satisfactory, while alcohol may be given by the mouth.—*The Cleveland Medical Journal*, April, 1903.

**TREATMENT OF FELON.**—Edward Wallace Lee (*New York Medical Journal*, March 21, 1903) says: The more severe form of paronychia, generally called whitlow, deserves a treatment commensurate with its pathological importance. Before any

operation is begun, and even before the examination, the patient should be placed in a recumbent position. A general anesthetic in most cases is indicated, for the reason that the patient is generally worn out with pain and in a high state of nervous excitement. A general anesthetic having been administered, the hand and forearm should be washed with soap and water; in fact, placed as near as possible in an aseptic condition. The hand and arm should be elevated to relieve the congested condition of the parts, and before the Esmarch bandage is applied, slight digital pressure should be made over the brachial artery, which will thoroughly bleach the parts before the bandage is applied. This procedure is quite necessary to control the slight hemorrhage which would otherwise embarrass the operation. The hand is now placed on an aseptic towel over a hard substance and an incision made from a few lines back of the inflamed area to the tip of the finger, down, if necessary, to the bone. As all hemorrhage and oozing have been prevented by the application of the Esmarch bandage, the extent of the disease can be clearly defined. All pus and sloughing debris should be cleaned out with peroxide of hydrogen, and the wound cavity washed with a 1 to 1,000 bichloride of mercury solution. With knife, scissors, and curette all diseased tissue should be removed: integument, cellular tissue, tendon, periosteum, and bone. Not a vestige of diseased tissue should be left, for it may be the cause of further infection. The wound should again be cleaned out with peroxide and washed with bichloride. The whole cavity should then be swabbed with pure carbolic acid, immediately followed by a washing with alcohol, which will prevent over-action of the carbolic acid. The wound is again washed with a 1 to 1,000 bichloride of mercury solution.

The wound can now be closed and held in this position with a snug, moist, bichloride gauze compress, over which a dry gauze bandage is applied, over this

rubber tissue, and over all, including the whole hand, cotton gauze and a bandage, the arm and hand being placed on a splint and elevated. In four or five days the dressing can be removed, and if the work has been thoroughly done, the wound will be found closed, free from discharge, and on the rapid road to recovery without further loss of tissue or constitutional disturbances. A similar dressing should now be applied. Four days more will find the parts united, and then the wound only needs a protective dressing until new epidermis and skin have formed.

I have gone somewhat into detail regarding this treatment, but the results obtained justify it, compared to results obtained through the ordinary courses of treatment.

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INTRATYMPANIC INJECTIONS OF PILOCARPINE IN CHRONIC CATARRHAL DEAFNESS.—R. W. Gillman (*Journal of the Michigan State Medical Society*, April, 1903) states:

Politzer, some fifteen years ago, recommended the employment of solutions of pilocarpine introduced into the middle ear for the relief of certain cases of chronic catarrhal deafness. He is still following this practice, and strongly asserts that favorable results are almost sure to follow its application in the hypertrophic form of the disease.

For the past two years I have been treating many cases of O. M. C. C. with intratympanic injections of pilocarpine, and, although I have not observed any astonishingly favorable results following this medication, yet, on the whole, I feel satisfied that some patients were benefited by its use.

To be sure, each treatment was not restricted to this local injection. Vibratory massage to the affected drum-heads was applied in all cases permitting of it. Any pathological conditions found in the nares or pharynx were attacked, and the general health and hygiene of the patients were most carefully considered, and in almost all of the cases improved.

The method of introducing the solution into the middle ear consists in first passing the eustachian catheter, using the diagnostic tube in order to determine the permeability of the eustachian tube. Five to eight drops of a one to two per cent. solution of the muriate of pilocarpine, warmed, are dropped into the catheter and by means of the Politzer bag the solution is forced into the middle ear. Frequently the hearing, after the injection, is made temporarily worse, but usually the patients complain of no discomforts. I have never observed salivation follow an injection of this quantity and strength.

**TREATMENT OF RHEUMATIC TONSILITIS IN CHILDREN.**—John Stewart (*Medical News*, May 23) says :

Calomel and saline is first in the treatment of this disease. Salicylic acid or sodii salicylas acts as a specific when given internally in small doses, say one gr. of the acid or about three grs. of the sodii salicylas, given every two hours. This, if given from the onset, will often prevent suppuration, shorten the attack, and relieve the pain and swelling. Tinct. guaiac. ammon., if given in hot milk as a gargle, will often abort an attack, and if the case has advanced to about the fifth or sixth day, it will give almost immediate relief.  $H_2O_2$ , 25-per-cent. solution, as a swab, will, if continued through the case, afford great relief. And as for Tinct. ferric chlor. and potassii chlor., I have not seen very good results, although they seem to be prescribed extensively in these cases throughout the attack. It is not until convalescence that I use Tinct. ferric chlor. and then only for a few days, to contract the tissues to their normal size. The diet should be in the shape of gruels, etc. Pellets of ice give relief. If suppuration cannot be averted, apply hot applications, and as soon as fluctuation can be detected, the abscess should be opened. At times it seems as though nothing gives any relief, and at the end of seven days all symptoms of inflammation subside at once.

**ANAL FISSURE TREATED WITHOUT OPERATION.**—S. Lewis (*Medical News*, May 30, 1903) says :

In its essence the treatment consists in applying to the fissure and surrounding area a saturated solution of potassium permanganate, and using a suppository containing sulphichthyolate of bismuth. Technic is of importance and is as follows: Patient in semi-prone position on table, supporting her own right buttock. On separating the folds at the mucocutaneous junction, as a rule, the outer extremity of the fissure or painful ulcer, or at least a red streak indicating its location, can be seen. It may be hidden behind a sentinel pile and may be multiple. Cocainization (6 per cent. solution applied on cotton pledget for 10 to 15 minutes) is often required before satisfactory examination can be made, and may have to be repeated on reaching fissure. If spasm exist, I have passed a large flexible bougie and left *in situ* five minutes. (This is rarely needed.) A thorough digital examination may now be made, if desired. Expose fissure, cleanse gently with warm water, and apply permanganate on tiny swab to fissure and whole surrounding area. A smarting occurs lasting two to ten minutes. No patient made more complaint than to say "that swarts a good deal."

**After-treatment.**—In contradiction to one of the leading authorities (Gant, *Dis. of Rectum and Anus*, p. 124), I am amazed to find the "severe pain and tenesmus" following the use of suppositories absent in my cases. I ascribe this to (1) the special action of the permanganate; (2) the satisfactory shape and consistency of the suppository employed, and care in its use. I have discarded a former favorite (a combination of Peru balsam and iodoform), and employ a suppository sold under the name of *anuso*. This affords an absolute uniformity of shape and consistency and presents a more astringent and stimulating action on the fissure and on hemorrhoids, if present. Best of all,



it pulpes the stool, which is allowed to be *passed daily*, a much simpler method than that of Boas, who stops the movements for a week or more. In my worst cases I have inserted the suppository myself or instructed a competent nurse. It should be employed night and morning warmed till "slippery," then gently pressed against the anal orifice *on side opposite to fissure* until the sphincter relaxes and suppository slips in. In most cases it can be inserted by the patient. I cannot feel that ointments, as recommended by Gant, or powders (Boas), could be relied on to reach the involved area if applied by patient.

One suppository is ordered night and morning, the usual dietetic and medicinal treatment of constipation prescribed, and patient told to report in two days. Severe cases are told to rest as much as possible, reclining. The worst are confined to bed.

Now mark the result. In every one of my cases the next stool has been loose, mixed with products of melted suppository, and marked by *two or three minutes of smarting* in cases in which for days and weeks, even months, preceding the patients have after every stool rolled in agony lasting sometimes two hours.

**PLEURISY WITH EFFUSION.**—G. W. Pfromm (*Medical Bulletin*, April, 1903) makes the following remarks:

Pain can usually be almost instantaneously relieved by the hypodermic injection of  $\frac{1}{4}$  grain of morphine sulphate. This simple procedure translates the patient from a situation of intense distress to one of comparative ease. It allays the pain and improves the character of the respiration. As a rule, this is the effect of such a dose, although I am bound to warn you that there are patients and cases in which even smaller amounts of morphine will depress the circulation. In that event, or if we have reason to suspect such a contingency, it is well to combine atropine with the morphine. The former will counteract any depressant influence

of the latter alkaloid, and the combination is equally effective as an anodyne. Fortunately, the first stage of pleurisy is of no great length. In twenty-four or thirty-six hours the effusion begins to be poured out, and when the pleural surfaces are parted by the fluid, the intensity of the suffering is measurably relieved. I think, however, that you will doubtless agree with me in believing that a day, when every breath is a torture, will seem like a week to the miserable patient. In every case the effect of the opiate should be attentively watched. This is a remark, of course, which applies to any disease. A competent man is always a careful man.

You may now ask me: shall the morphine, or the morphine with atropine, be repeated?

This will depend upon the effect of the remedy and the intensity of the disease. I think that, as a general rule, it need not be repeated. If there are signs of pneumonia, present or imminent, I should say, do not repeat the hypodermic injection.

This confronts us with the question, how otherwise shall this most urgent symptom be relieved? We may administer by the mouth morphine acetate in the dose of  $\frac{1}{16}$  grain in combination with  $\frac{1}{2}$  ounce of liquor ammonii acetatis. This combination will keep the pain under control and at the same time promote the action of the heart and lungs. It possesses likewise a diaphoretic and antipyretic influence, which is of advantage and which may be increased, if need be, by the addition of spiritus ætheris nitrosi. The acetate is used instead of the sulphate in such a prescription as the foregoing, because the latter salt will be decomposed by the ammonium acetate.

Of late years salicylic acid has come into vogue as a reliable remedy in this disease. The objection to this agent is that it is liable to depress the heart and circulation, or to irritate the stomach. From an analysis of thirty cases under treatment during the last six months I am

convinced that the ammonium salicylate is the safest and most efficient salt to employ. The ammonia counteracts the debilitating effect of the salicylic acid, although it must be confessed that it is not as well borne by the stomach as the combinations with potassium or sodium. On the whole, however, I give the preference to the ammonia salicylate. Any one of these salts is administered in the dose of 10 grains every two or three hours and preferably, perhaps, in capsules. The acid has antipyretic, diaphoretic, and diuretic properties; the ammonia is a stimulant.

Quinine is a safe and efficacious antipyretic agent, and as such may be acceptably employed in the management of acute pleurisy. Both quinine and salicylic acid cause ringing in the ears, and when this effect is manifested the doses must be decreased. If this untoward result persists, the remedy may be withdrawn and cinchonine sulphate in the dose of 5 grains every three hours substituted for the quinine. It is well to remember, furthermore, that the annoying sensation in the ears may be prevented by the administration of dilute hydrobromic acid in drachm doses.

**TREATMENT OF CARBOLIC ACID POISONING.**  
—John R. Atwell (*Virginia Medical Semi-Monthly*, May 8, 1903) concludes:

1. Atropine sulphate subcutaneously 1-50 gr.
2. Through the stomach tube: (a) Six fluid ounces diluted alcohol; (b) stomach irrigated with over two gallons of water at the ordinary temperature; (c) six fluid ounces of undiluted alcohol, washed out in about five minutes; (d) a tablespoonful of Epsom salts in a pint of water; (e) stomach filled to repletion with very strong hot coffee, this syphoned off; viscus filled and allowed to remain so.
3. Nitroglycerine hypodermatically, 1-100 gr.
4. Hypodermatic injection of atropine, 1-50 gr.
5. Rectal enema of salt solution.
6. Salt solution injected under breast and side of chest.

**TREATMENT OF PURULENT CONJUNCTIVITIS.**  
—Edgar S. Thomsen (*Medical Record*, May 30, 1903) says:

It is impossible to lay down any rule as to the limits of the time when the abortive plan of treatment may be used, but my own practice is always to attempt it wherever there is any prospect of success. If I see a case two days after infection, and the swelling or discharge seems not to be at the greatest height, I apply a three-per-cent. or a four-per-cent. solution of nitrate of silver as thoroughly as possible, and then meet the further indications as they arise, using 2 per cent. as a daily application. It is best in using a stronger solution than 2 per cent. to neutralize with salt solution on account of the danger of staining the cornea, or even to lay a pledget of cotton soaked in salt-solution upon the cornea while making the application.

Where silver irritates, as shown by the increased discharge of serum, and a tendency of the conjunctiva exists to bleed readily when handled, a six-per-cent. solution of protargol may be used. It has been claimed for this germicide that it is without irritating properties, but this is certainly not so. It is, however, very much less irritating than silver, and many persons do not feel the application of a six-per-cent. solution at all. Stronger solutions are of no particular advantage—the irritation is more marked and the germicidal properties seem to be not appreciably greater. Protargol is a valuable drug in ophthalmia neonatorum—in cases in which the conjunctival thickening is not great enough to support applications of nitrate of silver. It may be dropped into the eyes twice daily.

In other forms of purulent discharge, that is, those caused by the pneumococcus, Koch-Weeks' bacillus, or other pus organisms, silver is not to be used, but protargol in six-per-cent. solution, applied once a day, is a most efficient germicide, and will often limit an attack of "pink eye" to a few days, which other-

wise would last two or three weeks. Protargol has the further advantage of not staining the tissues as readily as silver nitrate; and it is good practice to flood the corneal ulcer occurring in the course of a gonorrheal conjunctivitis with a six-per-cent. solution once a day. It has been claimed that protargol will not stain the conjunctiva, but cases have been reported in which its prolonged use has led to a slight stain. The claim at first made for it that it will penetrate the tissues and destroy germs more deeply than silver, seems not to be borne out by clinical experience. In severe cases of gonorrheal conjunctivitis with papillary hypertrophy the astringent action of the silver is to be desired, and the discharge subsides less readily under protargol than under silver. Argyrol, 25 per cent., or silver vitelline, fulfills all the above indications for protargol, and is absolutely non-irritating. It is also less effective than silver, when an astringent is required; but when a non-irritating germicide is required, it is certainly ideal. I have recently seen it injected into the anterior chamber of an infected eye with remarkable checking of the process, and without any irritation to the iris whatever.

The other indications for treatment in purulent conjunctivitis are best met on the old-fashioned lines. Constant cleansing with saturated boracic acid solution resists the development of corneal ulcers and keeps down the number of germs. Boracic acid is merely a non-irritating wash and has no germicidal value. If we use plain water on the conjunctiva or any other mucous membrane, there is a tendency to exosmosis set up at once in the blood vessels, which dilate—a phenomenon frequently observed when the eyes become red after being filled with tears in weeping. The least irritating solution, therefore, is one which has nearly the same specific gravity as the blood. The cleansing should be done often enough to keep the eye clean, even if that is every ten minutes day and night.

For the swelling of the lids, iced cloths applied constantly are best, and these have another very important action, as has already been pointed out, in reducing the temperature of the conjunctival cul-de-sac below the point at which pus organisms grow best. It is possible to reduce the temperature several degrees, while heat cannot be applied constantly, and most pus germs bear slight degrees of increased temperature better than diminished temperature.

THE PAROXYSMS OF WHOOPING-COUGH TREATED BY PULLING THE LOWER JAW DOWNWARD AND FORWARD (Nägeli).—Jacob Sobel (*Archives of Pediatrics*, June, 1903) concludes as follows:

- 1) Pulling the lower jaw downward and forward controls the paroxysms of whooping-cough in most instances and most of the time.
- 2) The method is usually more successful in older children than in younger ones and infants.
- 3) In cases without a whoop the expiratory spasm with its asphyxia is generally overcome, and in those with a whoop the latter is prevented.
- 4) As a single therapeutic measure for the control of the paroxysms it deserves a place in the treatment of pertussis and is as successful as any single drug, or even more so.
- 5) Mothers, nurses and other attendants should be instructed in its use in order that the oncoming attacks, especially at night, might be arrested.
- 6) The manipulation is harmless, painless and easy of application, without any of the ill effects of drugs; it offers a maximum good effect with a minimum derangement.
- 7) The only contra-indication to its application is the presence of food in the mouth or esophagus.
- 8) Patients treated in this manner are less likely to suffer from complications and sequelæ than those treated only medicinally; they emerge from the disease in



far better condition, less exhausted and less emaciated, because vomiting has been controlled.

9) It is advisable to try the manœuvre in other spasmodic coughs and laryngeal spasms (laryngismus stridulus, pressure of enlarged cervical and bronchial glands, influenza, glottis spasm in catarrhal laryngitis), although my experience has seemed to show that it is far less efficacious in these conditions than in whooping-cough.

10) This method, being directed mainly to the control of the glottis spasm, does not preclude the advisability of supporting and sustaining the patient, guarding his gastro-intestinal tract, establishing equilibrium in the nerve centres and affording him every possible hygienic advantage.

11) It is particularly indicated in instances complicated with diffuse bronchitis, broncho-pneumonia, convulsions, epistaxis, subconjunctival or subcutaneous hemorrhage, or sublingual ulceration, and in those children who, by virtue of age, the presence of rachitis, scrofula, or general debility, are predisposed to serious complications and sequelæ.

ALCOHOLIC MULTIPLE NEURITIS. — Wm. Wormley (*Medical Times*, June, 1903), in speaking of treatment, says:

We will withdraw the poison he has been taking and put him upon a milk diet. We will give him strychnia, iodide of potassium, corrosive sublimate in small doses, 1-34 or 1 32 gr. three times a day. Locally we will use massage and electricity, and keep alive the muscles, and keep up the nutrition as well as we can. The muscles have been fatigued, and therefore we will see that this foot is not allowed to drag, which is done by the use of a rubber muscle, or by a rubber band, which will keep the foot from dropping, or have a steel spring in the sole of the shoe.

Equal parts of magnesium sulphate, sublimed sulphur and potassium bitartrate are spoken of by Thompson as very valuable for goutiness.

GASTRIC AND DUODENAL HEMORRHAGE. — Max Einhorn (*New York Medical Journal*, May 2, 1903) says: The treatment of gastric and duodenal hemorrhages consists, first, in measures directed toward checking the bleeding; secondly, in combating the underlying disease producing the hemorrhage. In so far as the second proposition embraces the management of ulcers of the stomach and duodenum, erosions, superficial ulcerations and cancer of the stomach, as well as cirrhosis of the liver, it is obvious that its discussion would require more space and time than are allotted to me to-night. I will, therefore, limit my remarks merely to the means at our command toward checking the hemorrhage.

Small hemorrhages occurring in cancer and rarely in ulcer of the stomach, being discovered by a thorough examination of the gastric contents, require as a rule no treatment whatever, ceasing usually by themselves. Larger hemorrhages of the stomach and duodenum are generally accompanied by hematemesis, often also by melena. Frequently from a pint to a quart, occasionally a still larger quantity, of blood is vomited at once. In rare instances the hemorrhage is so large and so sudden that the patient may die from exsanguination before there is time for the vomiting to appear. These larger hemorrhages must be handled with the greatest care and solicitude.

Absolute rest in bed, total abstinence from food and drink, and the administration of opiates (subcutaneously or *per rectum*) will serve to lessen the peristalsis of the stomach and small intestine, and favor the healing process. Thus, during the first three to five days following the hemorrhage rectal alimentation must be the only mode of nourishing the patient. Moderate amounts of saline solution *per rectum*, or subcutaneously, will supplement the amount of fluid required.

Measures of directly diminishing or checking the bleeding in the digestive tract have been used long ago. The old-

est means is the application of ice (ice bag) over the upper part of the abdomen. This antiphlogistic remedy still holds its place, and is a rational therapeutic agent in the affections under consideration. Another old but useful remedy is ergot, which was first given internally, and lately hypodermically. Its action consists in contracting the blood-vessels, and is often of great service.

Among the newer remedies two stand most prominently and must be discussed more fully. The first is gelatin. It acts in facilitating coagulation, and thus helps in the formation of a blood clot, which obdures the open vessel or vessels. Gelatin is employed *per os*, or more often subcutaneously. In the latter instance a 2-per-cent. gelatin solution may be used, injecting about 100 cubic centimetres at a time, preferably in the gluteal region. In giving gelatin by the mouth, simple calf-foot jelly may be administered. I personally prefer the subcutaneous method, in order to avoid gastric peristalsis.

I have seen several cases of very severe gastric hemorrhages improve under the subcutaneous gelatin treatment, and can warmly recommend it.

The other new remedy is adrenalin. This powerful drug, which has proved of so much benefit in the treatment in eye, nose, and throat affections, has been tried by some clinicians in a few diseases of the stomach also. Floersheim has treated one case of hematemesis, giving five grs. of suprarenal gland every two hours by mouth, with good results. Benedict has also described a case of gastric ulcer with hemorrhage, in which adrenalin (1:1,000) one-fourth of a gramme, given three times daily by mouth, proved of great benefit in checking the hemorrhage.

#### CONSTIPATION.—

- R Magnesium salicylate,  
Sodium benzoate..... $\mathfrak{AA}$  2.5  
Powdered rhubarb.....5.0  
Powdered nux vomica.....0.5

M. Ft. in chart. No. x.

Sig. One powder two or three times a week.

—*Progrès Médical.*

#### SELECTED PRESCRIPTIONS.

##### PRURITUS.—

- R Lanolin ..... 15.0  
Vaseline ..... 25.0  
Menthol ..... 0.3  
Carbolic acid..... 0.4  
Salicylic acid..... 3.0  
Zinc oxide ..... 10.0  
M. ft. ungt. —BROCK.

##### HEMORRHOIDS.—

- R Ext. opii.....gr. x  
Ext. belladonnæ .....gr. xv  
Ext. hamamelidis.....3 i  
Adipis.....3 i  
M. Sig.: Apply freely. —C. C. WILLIAMS.

##### MALARIA.—

- R Tinct. ferr. mur.....3 i  
Strych. sulph.....gr. i  
Liq. arsen. potass. ....3 ij  
Tinct. capsici.....3 iii  
Acidi phosph. dil.....3 iiij  
Glycerin.....q. s. ad 3 viij  
M. Sig.: 3 i t. i. d. in water. —BELL.

##### ENLARGEMENT OF SPLEEN IN MALARIA.—

- R Methylene blue.....gr. i  
Arsenic iodide.....gr.  $\frac{1}{10}$   
Mercury iodide.....gr.  $\frac{1}{30}$   
Iron iodide.....gr.  $\frac{1}{4}$   
Strychnine sulphate.....gr.  $\frac{1}{60}$   
Sig.: One pill t. i. d., p. c. —FLOECKINGER.

##### BALDNESS.—

- R Salicylic acid.....2.0  
Tinct. benzoin .....3.0  
Neatsfoot oil.....100.0  
M. Sig.: Apply into scalp. —BERNHEIM.

##### X-RAY BURNS.—

- R Acidi borici.....3 xii  
Zinci oxidi,  
Amyli,  
Bismuth subnit. .... $\mathfrak{aa}$  3 i  
Ol. olivæ .....3 i  
Liq. calcis.....3 iii  
Lanolini.....3 iii  
Aquæ rosæ.....3 xii  
M. —M. F. ENGMAN.

##### NICOTINISM.—

- R Zinci valerianatis.....gr. ij  
Zinci phosphidi.....gr.  $\frac{1}{2}$   
Pulv. cannabis Indicæ .. .gr.  $\frac{1}{2}$   
M. ft. caps. No i.  
Sig.: One such capsule four times daily.  
—J. V. SHOEMAKER.

##### CYSTITIS.—

- R Creosotal .....3 i  
Olive oil.....3 vi  
M. Sig.: Tablespoonful t. i. d.  
—C. S. SEWENING.

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## Leading Articles.

### THIOSINAMIN.

ALLYL-SULFOCARBAMID, RHODALLIN.



By J. W. WAINWRIGHT, M. D., New York.

Two parts of oil of mustard are mixed with one part of absolute alcohol and seven parts of ammonia water, specific gravity 0.900. The mixture is warmed to about 104° F. (40° C.) and concentrated on a water-bath. On cooling, crystals of thiosinamin separate. It appears in the form of colorless monoclinic or rhombic crystals, of a bitter taste and slight garlic-like odor; is but moderately soluble in water (watery solutions readily decompose), but very soluble in alcohol and ether. Thiosinamin is used by mouth in capsules, in doses of ½ to 3 grs., and hypodermically. When given hypodermically, it should be used in the form of a 10 to 15 per cent. alcoholic solution, or as a 5 to 10 per cent. hydro-alcoholic solution, with a small amount of glycerin added. Injections may be made once to three times a week, preferably in the intrascapular or gluteal region. They are somewhat painful.

The therapeutic uses, to which thiosinamin have been put, are contractions after burns; ankylosis after operations for lupus of the knee joint; in uterine tumors; urethral strictures; enlarged tubercular lymphatic glands; cicatricial contractions; fibroids; syphilis, and in corneal opacities without accompanying inflammation.

W. J. Robinson<sup>1</sup> reports upon his own experience with the drug, as well as that

of other writers. I quote from Dr. Robinson's article quite freely:

The credit for having introduced thiosinamin to the medical profession belongs to Von Hebra, who reported his experiments with the drug in the treatment of lupus and old cicatrices to the Second International Dermatological Congress.<sup>2</sup> He injected the drug subcutaneously in the neighborhood of the nodules and obtained a favorable local reaction, without in any way interfering with the organism in general. Also in cicatrices following the spontaneous ulceration of lupus or the applications of caustics the tissue became soft and pliable.

A case of ectropion caused by the destructive action of a lupus patch about the eyelids was completely healed. In chronic glandular swellings (not syphilitic) he also obtained very good results, causing diminution or entire disappearance of the swellings. The following year Hebra<sup>3</sup> called attention to the systemic action of thiosinamin, pointing out that the drug exerts its elective action on lowly organized tissue even if given internally or injected into a spot very remote from the affected part. In the same year, Dr. Alfred Hans<sup>4</sup> tried it in urethral strictures with favorable results, and Dr. Latzko<sup>5</sup> and Dr. Kalinczuk<sup>6</sup> in diseases of the female generative organs. Latzko tried it in forty gynecological cases, such as tumors of the uterine appendages, perimetritic and salpingitic inflammation, etc. He found that its softening action on cicatrices was undoubted; in many cases the tumors became diminished in size.

Prof. Unna,<sup>7</sup> and others also, reported upon its action as a resolvent in cicatricial contractions and as a remedy in local



tuberculosis; in the latter disease it seemed to possess a specific resolvent action, and also produced a great increase in the secretion of urine. In cicatricial contractions its effects were really remarkable. Thus, in one case, where the hands were useless on account of the fingers being drawn tightly into the palms, the fingers were straightened out, and the patient was able to resume work. In another case, a knee, that was completely flexed and useless from cicatricial contractions, thiosinamin brought about a remarkable improvement, so that the leg could be straightened almost completely. Some cases of corneal opacities of long standing being cleared up under the influence of thiosinamin were also reported at the time. Various authors mention the favorable influence of thiosinamin on deafness following otitis media, and ankylosis of the ossicles caused by cicatricial or fibrous adhesions.

In 1896, Dr. Sinclair Tousey,\* after experimenting with thiosinamin for over a year, declared that "it possesses positive curative properties in causing the resolution of benign and malignant tumors and the absorption of cicatricial tissue." It proved especially useful in his hands in the treatment of keloid. In one such case, following an extensive burn on the arm, affecting two areas, each the size of a silver dollar and projecting  $\frac{3}{4}$  of an inch above the surface, thiosinamin produced a complete cure. The hypodermic injections were made into the left biceps twice a week. The form used was a ten per cent. solution in absolute alcohol, and the dose ranged from  $\frac{2}{3}$  to  $1\frac{1}{2}$  grs. After twenty-seven such injections the cure was complete.

Dr. Richard C. Newton<sup>o</sup> reported two cases, one of extensive cicatrix following a severe burn, the other of multiple keloids, in which the injections of thiosinamin produced great improvement. In the case of the cicatrix, the patient was unable to use her right arm freely on account of a powerful band of cicatricial

tissue, which had formed along the lower border of the right axilla and pinned her arm to the side. After eleven injections patient could use her arm freely, and was discharged from the hospital.

In another paper, published about a year and a half after the first one, Dr. S. Tousey<sup>10</sup> gives additional information, both from his own experience and that of other physicians, regarding the product. The solution that he recommends for hypodermic use is made by dissolving 10 parts of thiosinamin in 100 parts of a sterilized mixture of water and glycerin. The full dose of this he considers 12 to 15 minims, injected into triceps or gluteal muscle every three days. Some have used 30 min. of this solution (containing 3 grs. of thiosinamin) as a usual dose, and in many cases it is well borne. The water-glycerin solution of thiosinamin keeps well and is non-irritant. No deleterious by-effects have been noticed following the use of the drug, though if it be administered in too large or too frequent doses, slight nausea, headache, and malaise may result in some cases. On the contrary, if carefully administered, thiosinamin produces a general tonic effect. The author also administered the thiosinamin by the mouth: 3 grs. were given every day for eight weeks, without disturbance of any sort and with the therapeutic effect sought for. There is no reason, the author says, why this should not become the general method of administration, as it certainly is the simplest. For corneal opacities, the author advises the injection of 12 min. of the 10 per cent. solution into the triceps every three days, until at least twenty-seven injections have been administered. Marked and permanent improvement in vision may be promised, but the improvement in appearance is not so striking.

Another use for thiosinamin is as a palliative in inoperable malignant growths. In one case of carcinoma of the bladder, an exploratory suprapubic cystotomy showed the impracticability of a radical

operation. For a number of weeks after there was excruciating pain, and the urine was thick with pus and blood. Thiosinamin was given hypodermically, and the urine at once cleared up and the pain diminished. The treatment was continued for a long time and seemed to palliate the symptoms, though it did not prevent a fatal termination.

In the treatment of urethral strictures, intramuscular injections into the thigh, with the occasional passage of a sound, have resulted in the cure of strictures of a type usually amenable only to cutting operations. An *impassable* stricture will readily admit a filiform bougie after a few days' treatment with thiosinamin, according to W. J. Robinson.

Concerning deafness, the same author urges a trial of thiosinamin in that form in which the tympanic contents are incapacitated for vibratory transmission by bands and masses of fibrous tissue. The drug, administered systemically, not locally, acts here as elsewhere to produce softening and absorption of cicatricial tissue.

Dr. Chas. H. Hubbard,<sup>11</sup> who has used the drug in conjunction with other treatment, says, he is satisfied that thiosinamin is worthy of careful consideration in catarhal deafness. In the same paper he reports three cases of defective vision—one of choroiditis disseminata, one of diffused opacity, involving both cornea, with well-defined macula, and one of senile cataract—in which treatment with thiosinamin effected considerable improvement.

Recently Unna<sup>12</sup> has been experimenting with thiosinamin applied locally, and with results highly satisfactory. He used it in the form of a soap of 5, 10, or 20 per cent. strength, and also incorporated with his plaster mulls. The plaster proved more effective and less irritating than the soap, and gave good results in fibrous tumors of various kinds, in keloids, leprosy and syphilitic lesions, and in the scars from small-pox. In the latter case a mask

of thiosinamin plaster mull was worn during the night. No irritation or pain was caused by it. On parts of the body not covered with hair and protected by the clothing the plaster may be worn permanently, and this is the most effective method. On the face, hands, and scalp it is better to use the soap, letting it dry on, or the plaster may be applied at night, and the soap used during the day.

This drug was the subject of an interesting discussion at the recent annual meeting of the German Dermatological Society, held at Breslau (*Klin.-therapeut. Wochenschrift*, 1901, No. 31). Prof. Neisser said that he obtained very good results in scleroderma from the hypodermic injection of thiosinamin. He used the following formula: Thiosinamin, 10 gm.; glycerin, 20 gm.; distilled water, 70 gm., of which he injected 0.5 to 1 cc. (8 to 16 min.). Dr. Juliusberg said that he also obtained good results from thiosinamin in the scars following lupus. Similarly favorable experiences were reported by Galewski, Caspary, and Chotzen. Dr. Rille said that he did not see any strikingly beneficial results from the use of the drug. Dr. Spiegler said he believed that thiosinamin did possess the action ascribed to it, but that action was not peculiar to it alone; it was common to all amides, and also to various tar and benzene derivatives.

If we summarize the literature on thiosinamin, the following conclusions seem justified:

1) The beneficial effects of thiosinamin in cicatrices, keloid, chronic glandular enlargements, and lupus are undoubted.

2) The drug seems to possess a beneficial influence in corneal opacities, ectropion, and in deafness due to sclerosis and adhesions. Further testimony is needed in this direction.

3) The drug is claimed to have given good results in urethral strictures and in gynecological affections, but the number of reports is small, and further evidence is necessary.

4) Taking into consideration the soften-

ing and resorbent effects of the drug, it seems rational to believe that it would produce good effects in such conditions as hypertrophied tonsils, hypertrophied turbinates, and in various hypertrophies of the skin. A cautious trial of the drug in the above conditions seems highly desirable.

5) From the latest reports it appears that, when used locally—applied to or injected into the lesion—, thiosinamin produces a stronger and more prompt impression, than when administered internally.

#### LITERATURE.

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#### SO-CALLED "STOMACH-ACHE." \*

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In but few departments of human pathology is the physician so dependent on the patient's own history of his symptoms, as in the domain of diseases of the abdominal organs, if he desires to make an exact diagnosis and institute a rational line of treatment. While the oculist, the gynecologist, the dermatologist and the genito-urinary surgeon require only a few subjective statements from their patients, and rely almost entirely on their own objective findings to locate the seat and nature of the disease, the diagnosis of chronic diseases of the viscera, as of those of the nervous system, requires thorough inquiry into the history, and careful, critical weighing of the patient's statements. He who understands how to weed out the

unimportant features from the complaints and stories of a given patient, and emphasize sufficiently the essentials, without falling into the errors of "snap-diagnosis," will often find it easy to make a correct diagnosis from the history alone.

One symptom common to the most varied forms of internal diseases, and re-appearing with almost malignant constancy, is what is commonly called "stomach-ache" (Magenkrampf). Under this name the layman sums up all colicky pains which make themselves felt in the epigastrium or its neighborhood, whether, as we shall see further on, they have their origin in the stomach, the colon, the liver, the heart, the uterus, the intercostal spaces, or elsewhere.

In discussing this symptom we shall, for the present, separate from the unpleasant sensations which may occur in the epigastrium all such as partake of the character of pressure, or at least of painful pressure. Almost every sufferer from stomach trouble will complain of "stomach-ache." Our first task is to find out whether this "stomach-ache" represents real pain, or only an unpleasant sensation of pressure, tension, fulness, burning or eructation, especially after taking food. Many patients will admit at once that they have never had real pain, even when their complaints have been of from ten to twenty years' duration. None of these cases concern us, for they either belong under the head of nervous dyspepsia and atony of the stomach, or, if the unpleasant sensations are most pronounced after eating hard or heavy food, such as black bread, potatoes, beef or pork, of gastritis.

A certain number of patients, when questioned about the nature of their pain, report as follows: The pains are burning, boring, or cramp-like in character, with a feeling of contraction in the pit of the stomach. They commence either in the epigastrium, sometimes a little to one or the other side of the median line, but generally exactly in the median line, or they commence in the back. They may,

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however, start at the umbilicus, the lower end of the sternum, in the middle of the abdomen, or in the right iliac region. From these starting-points the pain may radiate in all directions—upward as far as the sternum, the shoulders and the intrascapular spaces, laterally to the arms and sides of the chest, and downward to the symphysis pubis. The intensity of the attacks may vary greatly, also their causes and the manner of their commencement, duration, and termination. There are likewise great variations in the means used to successfully stop these attacks, be they home remedies or those prescribed by a physician. Lastly, we find differences in the accompanying symptoms and in the relation of the attacks to the taking of food and to defecation. We shall now see how it is possible by means of the above-mentioned points to determine in almost all cases the exact cause and location of the “stomach-ache” or gastralgia, without the absolute necessity of a physical examination or the use of a stomach-tube.

It is to day accepted as practically certain that the group of symptoms called “gastralgia” is caused by disease of the sympathetic plexus. Buch (*Archiv für Verdauungskrankheiten*, Bd. VII, Seite 555) has recently discussed these relations very clearly and thoroughly. He says that under normal conditions the sympathetic plexus is non-sensitive to pressure, but under pathological conditions only a slight irritation is needed to produce disagreeable sensations, and ultimately the most severe gastralgia. At the same time the wave-length of the sensitive nerves of the sympathetic plexus in regard to appreciating pain is decidedly shortened. Buch, therefore, makes the logical suggestion that we call this group of symptoms “epigastralgia,” in order thereby to emphasize the fact that the pain is felt in the epigastrium, without necessarily having its origin there. I should like to follow Buch’s example, and henceforth speak only of epigastralgia.

In proceeding to the special consideration of so-called gastralgia, we notice that attacks of pain or painful contractions in the epigastrium are observed in the most widely separated affections, and without much discrimination are by the laity called “stomach-ache.” Just here it may be of interest to enumerate all the possibilities, and then consider them individually in point of differential diagnosis and treatment. We have to consider :

1. *Heart.* Angina pectoris.
2. *Intercostal spaces.* Neuralgia, herpes zoster.
3. *Stomach.* Spasm of cardiac orifice, ulcer with spasm of pylorus, stenosis of pylorus, gastric spasm, nervous gastralgia.
4. *Duodenum.* Ulcus duodenale.
5. *Liver.* Biliary colic, cholangitis.
6. *Pancreas.* Stones, hemorrhage.
7. *Intestines.* Colica mucosa, colica flatulenta, obstipatio spastica. Lead colic. Ileus. Herniæ. Intestinal stones. Enteralgia (in hysteria and syphilis). Acute enteritis and perityphlitis. Embolus of the arteria mesenterica. Tapeworms. Foreign bodies.
8. *Uterus, Kidneys, Ureter, Bladder.* Formation of stones. Colics.
9. *Peritoneum.* Peritonitis.
10. *Spinal Cord.* Tabes dorsalis.

In all these affections the average patient will complain of “stomach-ache” or “cramps.” In every case we must discover the cause of the gastralgia, that we may thereby prepare the way for rational treatment. In passing, I would call attention to the fact that in general practice the following three conditions are frequently mistaken for one another—spasm of pylorus after ulcer, cholelithiasis, and intestinal colic.

1. *Angina Pectoris.*—Here the attacks of colic are entirely independent of eating. They begin more in the region of the heart and radiate thence to the epigastrium, the shoulders, the back, and the arms, especially the left arm. The attacks occur periodically, each lasting from a few minutes to a quarter of an hour, and they

often recur at a particular hour of the day. The diagnosis is easy, especially when the possibility of an attack is borne in mind. Elderly persons with pronounced arterio-sclerosis, smokers, and syphilitics are prone to this trouble. It is unnecessary here to discuss the pathology and therapy of angina pectoris.

2. *Intercostal Neuralgia*, after "taking cold" and before the eruptive period of herpes zoster. Here, too, the patient complains of "stomach-ache," which radiates sometimes only to the left and sometimes to both sides, encircling the lower end of the thorax, and reaching even to the back. In these cases the pain may be very severe. It comes on in jerks like supra-orbital neuralgia, and is increased and even started by pressure on the intercostal nerves. With a little care the diagnosis is easy.

3. *Stomach*.—As spasm of the pylorus accompanying ulcer is by far the most frequent cause of gastralgia, I shall consider it more carefully. In this affection the attack of pain always stands in intimate relation with the act of digestion. After light fluid food, such as soups, tea and milk, it is usually absent. In a given case it recurs always at the same interval after eating; in some cases this interval is one-half an hour to one hour, in others, one and one-half to three hours, in still others, as soon as the stomach is empty, *i. e.*, four to five hours after the principal meal of the day, namely from 6 to 7 P. M. and between midnight and 3 A. M. In the large majority of cases we find the secretion of hydrochloric acid above normal. Some authors claim that this alone is sufficient to produce spasm of the pylorus, but that this is not the case, and that we must seek another reason, is evident from the fact that in numerous cases of nervous superacidity and gastritis hyperacida, after abuse of alcohol and tobacco, pressure symptoms are present after eating, but not spasm. This other reason can only be an ulcer, erosion, or fissure of the pylorus itself, or in the pars pylorica of the duo-

denum. Ulcers situated in other parts of the stomach run their course entirely without symptoms, until hemoptysis takes place, or cause at most a burning, gnawing, or boring pain, but never a spasmodic one.

I am well aware of the fact that many authors regard these pains in the epigastrium occurring regularly two to three hours after the principal meals, cramp-like and radiating in all directions, as essentially an expression of hyperchlorhydria, which may lead to an ulcer. I am, however, of the opinion that the ulcer is always primary and the hyperchlorhydria secondary, as a result of congestion and stagnation in the stomach.

By no means every ulcer is accompanied by hyperchlorhydria; there are plenty of cases with regularly recurring gastralgia after meals without hyperchlorhydria, which recover promptly under treatment for ulcer.

A characteristic point in this sort of gastralgia is its stopping after the use of such antacids as bicarbonate of soda and magnesia usta, as also after warm drinks or a bit of bread. The explanation of this is not difficult. The superfluous free hydrochloric acid is diluted or combined and its corrosive action on ulcer, erosion, or fissure of the pylorus is counteracted. Thus the pain disappears, only to return again when a fresh unneutralized amount of HCl is secreted.

These cases of ulcer of the pylorus with hyperchlorhydria, easily recognized clinically by spasms of the stomach occurring at regular intervals after eating, form a transition to cases of stenosis of the pylorus. This latter condition may be a spastic one, or the result of scar tissue, both consequences of an ulcer, and sooner or later will lead to gastrectasia, unless prevented by therapeutic measures.

Other forms of gastrectasia result from adhesions of the pylorus or pars pylorica with neighboring organs, or from compression from without. Thus it may be occasioned by gall-stones, tumors of the

pancreas, peritoneal adhesions, etc. By these mechanical obstructions, the normal mobility of the pyloric end of the stomach is impaired, and as this is the real motor force of the stomach, it follows that insufficiency, that is dilatation of the stomach, must result when the compensatory hypertrophy of muscle, in the course of time, has reached the limit of its capability to resist. In all cases of gastrectasia, the group of symptoms resulting in gastralgia appears when the stomach endeavors to force its contents through the narrowed passage into the gut. In the form of ectasis due to pyloric spasm, the stomach cramp occurs usually twice in the twenty-four hours, namely late in the afternoon and at night; in the other forms the cramp comes irregularly, when the overful stomach tries to empty itself of its contents, and owing to the narrow pyloric orifice does so into the esophagus.

The treatment of all these forms of gastralgia is that of the underlying malady, that is as if there were an uncomplicated ulcer present. If at all possible, make use of Leube's rest-and-gruel cure, and finally send the patient to Carlsbad, which is the sovereign cure for this form of ulcer when combined with hyperchlorhydria and spasms of the pylorus. We can also make use of the Mühlbrunnen at home, using two cups in the morning and one in the afternoon.

Of medicines I commonly use extract of belladonna, which limits the secretions, combined with bismuth, magnesia, or sodium bicarbonate.

In recent cases of *ulcus chloroticum* I use, according to Boas, a solution of silver nitrate, 1 to 400, giving a tablespoonful in a wineglassful of distilled water, three times a day, quarter of an hour before meals, and confining the diet to soups and purées. In very old cases of *ulcus chloroticum*, and in all cases of ulcers, especially in men, the result of chronic pressure on the epigastrium, I give, according to Fleiner, 10 grains bismuth subnitrate, suspended in a glassful of luke-

warm water on an empty stomach, one hour before breakfast.

As an after-cure, I let my patient drink every morning warm vichy, using later an emulsion of sweet almonds. I have also used to advantage in such cases Bellocq and Bergmann's chewing gum in tablet form, and temporarily  $\frac{1}{130}$  grain atropine tablets. In stubborn cases I have had good results from the use of oil, of which I have written elsewhere. In such cases I give a wineglassful of warm olive oil in the morning on an empty stomach, and repeat it at night, if necessary. It can be administered either by mouth or by stomach-tube.

These methods of treating gastralgia due to spasm of the pylorus have always worked well in my hands, except in cases of stenosis of the pylorus due to cicatrices or malignant growths. In such cases surgical interference is necessary, when lavage has failed.

Purely nervous cardialgia is very rare, as I wish, contrary to accepted views, especially to emphasize, and as is apparent from our discussion. It is only to be taken into consideration, after excluding gallstones and intestinal colic, when it appears sporadically in nervously inclined patients after a psychic trauma. Usually it is accompanied by a dilatation of the stomach, because of the co-existing cardio-spasm, which prevents the escape of gases. The attack ends with eructation. The treatment consists in hot compresses, hot valerian or peppermint tea and tincture of belladonna.

We may add to the affections stimulating gastralgia the symptoms of painful empty stomach discovered by Boas. These painful pyloric contractions occur in nervous people whenever the stomach becomes empty, without producing any change in its chemistry. The pain is relieved by frequent small meals.

We find these painful contractions also occurring in gastritis atrophicans, when the stomach becomes empty, especially about 3 A. M.



In these cases the cause is a compensating hypertrophy of the pyloric muscles, the result of the effort necessary in constantly forcing coarse, unchymified food into the duodenum, an effort greater than that required where the food is thoroughly chymified.

4. *Duodenum*.—Symptoms of gastralgia appear in cases of ulcer and stenosis of the duodenum exactly as in pyloric ulcer. As the treatment is the same in both sets of cases, a differential diagnosis is of little practical importance. We think of an ulcer or stenosis of the duodenum only, when during the course of an illness resembling ulcer of the stomach we notice icterus, or find bile constantly in the stomach contents.

5. *Liver*.—Laymen almost always mistake gall-stone colic for stomach-ache, and even physicians frequently do the same.

In such cases we must notice especially that the cramp occurs only sporadically, or periodically, and that after intervals of quiet of months or years attacks may occur singly or in rapid succession. Rise of temperature and icterus accompanying such attacks are a pretty sure sign of biliary colic.

Inflammation of the gall-ducts without the passage of a stone is enough to produce colic. It happens frequently that gall-stones, which have for years lain peacefully and quietly in the gall-bladder, are set in motion and produce colic through some sudden emotion, such as anger. There is much truth in the old superstition that violent anger produces colic and jaundice. This is not the place to speak of the treatment of attacks of biliary colic.

As a further point in the differential diagnosis between biliary colic and ulcer with spasm of the pylorus, it should be mentioned that pain on pressure is elicited in the former in the region of the gall-bladder, and on the right side posteriorly, while with the latter it is found in the median line in front and posteriorly to

the left of the spine. Furthermore, biliary colic is entirely independent of meal times, while spasm of pylorus stands in direct relation to eating.

These differential points should be sufficient to make the diagnosis easy.

6. *Pancreas*.—Attacks of gastralgia due to stones or hemorrhage in the pancreas are only then to be diagnosticated when diabetes or fatty stools are present, otherwise we cannot differentiate between them and biliary colic. The possibility of this condition should, however, be kept in mind.

7. *Intestines*.—I need only briefly mention the affections which a layman might confound with stomach-ache, such as perityphlitis, acute colic with diarrhea, and hernia. In addition to these is embolus of the intestinal arteries, which may produce severe gastralgia, and which is only diagnosed by the subsequent severe intestinal hemorrhages.

Lead colic also produces severe gastralgia, but this condition should not lead to mistakes, unless it is entirely overlooked.

Of more importance are the colics accompanying obstipatio spastica, whether produced by gas or mucus, and respectively called colica mucosa and colica flatulenta. How often are these forms of colic confused with genuine gastralgia! Only the condition of the patient's stools saves us from errors. If these colicky attacks occur generally just before diarrheal movements, the diagnosis is easy. We must always inquire carefully about this, as patients are careless in taking notice themselves.

With colica flatulenta, pain ceases, or is much lessened, after passing wind, and also, as in cases of spasm of the pylorus due to hypersecretion, after warm drinks or hot compresses. Warmth, internal or external, resolves the spasms of the colon. Very rarely does this form of colic occur directly after meals, and then only in very sensitive patients. Usually such wind colic is entirely independent of eating, and thus easily diagnosed.

We have already noted the treatment of this wind colic. In addition we should forbid the use of cold drinks and food causing flatulence, such as fresh bread, cheese, cabbage, pears, cucumbers, and hard boiled eggs, and give carminatives and, as a matter of routine, belladonna.

Colica mucosa offers similar conditions and is an exacerbation of chronic colitis caused by constipation and abuse of cathartics extending over many years.

During attacks of colic, which are often called "stomach-ache," pieces of mucous membrane are passed, and these readily indicate the diagnosis. When these pieces of mucous membrane are absent, we may suspect a colica mucosa from the passage of irregular lumps of feces of small caliber and surrounded by mucus, and, furthermore, from band-like contractions of the colon.

In treating these cases we have two problems: first, to relieve the acute attack, which we do as in cases of wind colic, adding an enema of oil, if needed, and second, to control the chronic spastic obstipation. The diet should consist of food containing a moderate amount of cellulose and plenty of fruit juice and organic acids, such as buttermilk and kefir, and to this should be added several weeks' treatment by means of oil enemata and packs.

With a little thought colica mucosa is, like the other colics, easily differentiated from gastralgia.

The remaining intestinal affections are so rare that we need but mention some of them, such as acute ileus, strangulated hernia, especially in the epigastrium, and colic resulting from worms and foreign bodies, like pears and fruit seeds. It would carry us too far to discuss each one.

Of these the epigastric herniæ deserve some notice, as the pain they cause may resemble that of ulcer or gall-stone colic. We may avoid mistakes by noting, first, that they are usually visible and palpable in the linea alba, and, second, that they

are directly dependent upon relaxation of the recti muscles, and appear especially on bending over, lifting, coughing, sneezing, and forcing at stool.

8. *Urogenital System*.—Owing to the reflex vomiting occurring so often in pain due to stones of the kidney, ureter, bladder, and to dysmenorrhea, these conditions may be mistaken for gastralgia. A little attention to the source of such pain will exclude all but the right cause, and examination of the urogenital system will clear up the diagnosis.

9. *Peritoneum*.—For the sake of completeness I will merely mention the colic produced by inflammation of the peritoneum and accompanied by vomiting.

10. In conclusion, as is well known, we may have gastralgia accompany tabes dorsalis. Merely bearing in mind this possibility will often suggest the diagnosis.

Treatment is naturally most unsatisfactory, and I confine myself to gastric lavage and giving morphine or oxalate of cerium.

This concludes my discussion of differential diagnosis. I do not add histories, as every physician has had plenty of his own, though perhaps he has not always interpreted them rightly. I wish to emphasize once more the fact that there are three principal conditions to be considered in cases of gastralgia, or stomach cramp, namely, *spasm of the pylorus*, *biliary colic*, and true *colic of the transverse colon*.

I trust I have proved it possible, even without the aid of the stomach-tube, so to differentiate the various affections which can produce symptoms of gastralgia that each may be treated clinically in a rational manner.

The means of so doing, I repeat, are careful consideration of the history of each case, the time of occurrence of cardialgia, its duration, its relation to eating and defecation, its suppression by means of warmth, antacid remedies, etc., and the relation to it of secondary symptoms, such as icterus, hematemesis, melena, and pains in certain regions.

*SOME SUGGESTIONS IN THE  
MANAGEMENT OF CHILDREN PRE-  
DISPOSED TO PHTHISIS.\**

By ALBERT MCCONAGHY, M.D., Philadelphia.

One of the first vital principles in health is attention to the art of breathing. Few of us breathe in the right manner. If breathing were properly performed, and the entire lung capacity utilized, there would be fewer diseases of the lungs and more recoveries from the first and second stages of phthisis. The large percentage of deaths every year from pneumonia and tuberculosis is due to the fact that the lungs are left to care for themselves. It is possible for a person to exercise his whole body, to keep it strong and well, simply by breathing properly.

The cure of disease often depends upon trivial details. It seems perfectly natural for physicians, in treating a disease, to pass by what is simple and apply more complicated or expensive means. The average physician is not awake to the importance of breathing in the treatment of diseases of the lungs. We hear a great deal of preventive medicine, but it seems to me this deals more with serums, vaccine, and antitoxins, than it does with the fecund soil in the individual. The true idea of prevention is, placing the individual in a condition of health in which he will not take disease, in other words, teaching him how to increase his resistive forces.

Let us take a typical case and consider its treatment. We have a child eleven years old, who has a strong inherited tendency to tuberculosis, but without any positive symptoms. It is undersized, weak, and somewhat anemic, takes frequent colds, and has a dislike for all forms of exercise.

Every delicate child has a repugnance to any form of discipline and exercise, so, before we begin to treat such a case, we must get the support and hearty co-opera-

tion of the child's parents, and this is always easy to obtain if the latter are informed of the child's true condition. Such patients are often what we call "bright children," and frequently manifest a precocity out of proportion to their years. Their minds are forced and fostered to such a degree that the other tissues and organs of the body are deprived of their necessary nutrition. Therefore it is of the utmost importance that these children should not be allowed to overstudy, and that their habits of life be so regulated that their health may be improved. Delicate children are subject to frequent colds, which, in an already weakened system, reduce the vitality of the lung structure. Protection against colds is afforded by the daily cold bath—and by this I do not mean the cold plunge.

The way to take a cold bath is as follows: Use running water; do not stand in the tub but at its side; take a wash cloth and wring it out in the cold water, and bathe an arm; then take a rough towel and thoroughly dry the part, rubbing vigorously upward (always rub upward in drying the body); next take the other arm, and then in turn the chest, abdomen, back, and so on, until the whole body has been washed. In this way all shock has been reduced to a minimum, and the body reacts immediately.

As excessive covering of the skin makes it sensitive to changes in the weather, all stocks, mufflers and furs should be forbidden. Low collars should be worn, and the coat-collar never turned up. Another way in which the body can be hardened is to expose it to the air daily. Have the windows open and walk around the room for several minutes, while undressed, every morning and evening. Of course, it would be very injudicious to start this hardening process during the winter months. Begin in the summer, and it can then be continued throughout the winter without any untoward effect.

It is a pernicious habit to have children bolstered up in bed, and particularly that

\* From the *International Medical Magazine*.



class whose lungs are not of the best. We all know that, in the upright position, the blood has a tendency to gravitate toward the base of the lungs, and the apices are poorly supplied with blood, as well as improperly aerated, and hence are the most susceptible points to infection. These children should be taught to sleep on a hard mattress and without a pillow. In this manner the chest is less contracted, the breathing is freer, and the lungs get a better supply of blood.

Every child who has a predisposition to tuberculosis should be taught that the sun is just as necessary to life as the air, and he should spend a part of every day in its rays.

Attention to the proper development of the lungs in childhood is of the utmost importance. Breathing is not properly performed because it is a muscular effort. If a child is allowed to grow up into manhood without any attention having been given to his chest, there will be a diminished mobility and vital capacity, which will be hard to correct on account of the deposition of lime-salts in his bone and a contraction of his thoracic elevators. In developing the lung, breathing exercises are more suitable than gymnastics. The former increase the vital capacity, while the latter develop the muscles of the chest. The following exercise is a good one to increase the breathing capacity of the lungs, as well as to develop the muscles of the chest.

The room should be well ventilated, but free from draughts; have the windows down from the top and up from the bottom. It is better to take the exercise in a room other than the sleeping-room. The clothing should be loosely fitting, so as to leave the movements of the body unimpeded. If the exercise is begun in the summer months, it is better to wear no clothing at all. This will harden the body and render it less susceptible to changes in the weather.

Exercise in the bare feet; this allows the ligaments and muscles supporting the

ankle-joints to be brought into play and thereby strengthened. Stand with the heels together, the toes turned out, the abdomen drawn in, the chest forward and upward, but arms hanging loosely. Have the hands on the posterior aspect of the thighs and slowly exhale all the air from the lungs. As the arms are elevated to a position above the head, turn the palms up and the arms back; at the same time take in a full, slow breath. The inspiratory act should be completed just as the hands come together above the head. In lowering the arms, turn them backward and slowly exhale. At the end of the respiratory act bring the chest into a state of extreme contraction, by crossing the arms in front and bending forward, at the same time making a forced expiration to get rid of the residual air. Keep the mouth tightly closed throughout the exercise. The breathing should be nasal. If this exercise is done properly, it is devoid of all strain, and can be done by old as well as young.

These movements, besides increasing the measurements and contour of chest, develop the muscles of respiration, increase the breathing capacity, elasticity, and circulation of the lungs. This exercise should be taken fifty times every morning before breakfast, and should occasionally be interrupted by other movements which will develop the muscles of the shoulders and spine.

My advice to the class of patients which we have been discussing (aside from the few medicines indicated) would be as follows:

- 1) On arising take a glass of hot or cold water.
- 2) Breathing and other exercises in a well-aired room.
- 3) A regular time for stool immediately after the exercise.
- 4) Cold bath, with vigorous rubbing upward of the body.
- 5) Play in the sun one hour every day.
- 6) Encourage proper carriage of body, chest upward and forward, abdomen drawn in, arms hanging loosely.
- 7) Cultivate habit of deep breathing on the street, and breathe through the nose.
- 8) Sleep on a hard bed, and without a pillow.
- 9) Limit the child's studies.

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## Editorial.

### ORGANO-THERAPY.

The claim of BROWN-SEQUARD, that "all the glands of the body, whether excretory or not, supply to the body useful principles, the absence of which is felt when these glands are extirpated or destroyed by disease," proved the nucleus around which scientific investigation subsequently gave so much to the profession.

Careful study and experimentation with the internal ductless glands and the alertness and ingenuity of drug manufacturers have served to place organic extracts, or some of them at least, among the most valuable medicaments at our command. The pioneer extract in this field, and the one indeed which best exemplified BROWN-SEQUARD's theory, was that of the thyroid gland; and with its successful administration there followed an array of others, which have proven more or less valuable. Thyroid gland extract has been most successful in the treatment of cretinism or post-operative myxedema, wherein it effects a most marvelous improvement, provided its use be instituted early. In obesity, insanity, rachitis, carcinoma, purpura, psoriasis, scleroderma, eclampsia, ununited fractures, menopause, fibroids and metrorrhagia the results have been

oscillating. Suprarenal gland extract and its active principle, designated under various names, have come to stay beyond a doubt.

It is as a local hemostatic and astringent that they have found their greatest sphere, though internally they have proved serviceable in Addison's disease, cardiac affections, asthma, hay-fever, rosacea, diabetes insipidus, and in the collapse following anesthesia, surgical operations, or injury.

Thymus gland has found favor of late with some in the treatment of rachitis and Gravé's disease; in the former because of its richness in phosphorus, and in the latter because of its apparent antagonism to the hypersecretion of the thyroid. OSBORNE goes so far as to claim that his tuberculous patients invariably improve under its use when the customary dietetic, hygienic, and hydro-therapeutic measures are combined with it. Ovarian extract offered great hopes theoretically, but practically it has failed to fulfill expectations. The distinctive phenomena of puberty, the disturbance following removal of the ovaries, and the symptoms of the climacterium led us to believe that there was an important internal secretion of this gland, and that, if need be, this could be supplanted by ovarian extract. The feeding of ovarian substance, however, has not given the results anticipated, either in the aforementioned conditions or in the amenorrhea of anemia and chlorosis.

The use of pituitary substance in acromegaly and Parkinson's disease, of orchitic extract in neurasthenia and sexual debility, of spleen extract in Hodgkin's disease and the various anemias, of parotid gland in dysmenorrhea and epilepsy, of mammary extract in uterine hemorrhages and fibroids, of prostatic gland in hypertrophy of that organ, and of bone-marrow in the disturbances of the blood is still in the experimental stage, and no definite results have been tabulated. This entire subject is a most interesting one and offers an extended field for scientific study.

IT MAY BE SAID OF "stomach-ache" as of charity—"how many sins are committed in thy name?" Many grave and fatal errors have been made by the symptomatic diagnosis of stomach-ache, when a thorough examination would have discovered a serious condition. Far too little attention has been given to this subject, and we are pleased to reprint a translation of a very practical paper by Dr. PAUL COHNHEIM, of Berlin. A careful perusal of this contribution will give many valuable suggestions of a diagnostic and therapeutic nature, and serve to impress one with the importance that the subject demands.

A CONVENIENT METHOD FOR ADMINISTERING QUININE SUBCUTANEOUSLY.—Aufrecht (*Ther. Monatshefte*, February, 1903) recommends the following solution for the subcutaneous injection of quinine:

R Quininae hydrochloratis.....viii gr.  
Urethani.....iv gr.  
Aqua destillatæ.....ss fl 3

Urethane increases the solubility of quinine, and therefore the latter may be administered subcutaneously, without injecting large quantities of fluid into the tissues.—*Intern. Med. Magazine*.

CONCUSSION.—Percy R. Bolton (*International Journ. of Surgery*, June, 1903.) says:

The treatment is altogether symptomatic. In mild cases there is little required beyond rest in bed and external warmth. In more serious or very severe cases, in addition, the heart action is maintained by various forms of stimulation, *viz.*: mustard paste over the precordium and hypodermic injections of strychnine and whiskey.

In any case, if the reaction excitement is, or tends to become, excessive, the head is elevated, an ice-cap applied, and morphine or hyoscine is given.

The treatment of the infrequent sequelæ, neurasthenia or the symptoms of positive brain gliosis, cannot be appropriately discussed here.

## THE THERAPEUTIC NOTES.

In dysmenorrhea, unassociated with pelvic lesions, Hammond advises the tincture of gelsemium in ten-drop doses three times daily, beginning seven to ten days before the expected flow.

The raw spinal cord of young cattle has been employed by Fabian with a remarkable result in pernicious anemia.

Jones has obtained marked improvement in all cases of diabetes mellitus treated with uranium nitrate, in doses of one-fourth of a grain, three times daily.

Barnes has found thyroid extract useful in stimulating mammary inactivity.

Trichloroacetic acid, applied on a cotton swab, is employed by Gomperz for perforations of the tympanum.

Empyroform, a condensation product of formalin and birch tar, proved very useful in chronic eczema, according to the reports of Pick.

Jordan claims that the local application of a one to four-per-cent. solution of formalin in glycerin, if begun early, will rapidly cure tonsillitis.

For the pain of phlyctenular conjunctivitis, Meierhof has found small doses of sodium salicylate very effective.

Kayenski speaks highly of ice suppositories for the relief of the tenesmus and diminishing the number of stools in dysentery.

For anal fissure a saturated solution of potassium permanganate is recommended by Lewis.

In ulcerations of the tonsils and mouth the three most useful drugs are iodine, nitrate of silver, and chromic acid.



## Current Literature.

**RHEUMATISM IN CHILDREN.**— Alfred Friedlander (*The Cleveland Med. Journal*, July, 1903) states that rheumatic children should wear flannel underwear the year round, its weight being varied according to season. Its value in diminishing the danger of chill is fully established. While exposure to cold itself is to be avoided when possible, it should be remembered that damp weather, with cold east winds, with the ground covered with slush, is especially favorable for the development of rheumatism. For the actual attack, the salicylates, in combination with bicarbonate of soda, offer the best plan of treatment. In order to get good effects from the salicylates, the quantities used must be rather large. While it is doubtless true that these drugs are somewhat depressing to the heart, it is just as true that children ordinarily stand proportionately larger doses. When the case can be carefully controlled, the use of large amounts at the outset, so as to mass the effect, is of decided advantage, though this plan of treatment demands watchfulness on the physician's part. The salicylates certainly have a marked analgesic effect, even though there be some doubt as to their value in cardiac trouble.

Local applications to the joints, if they be inflamed, are not always necessary. Simple wrapping of the joints in cotton batting is usually sufficient, though at times it is well to immobilize the joints by splints. Occasionally, the local application of two-per-cent. salicylic acid ointment has seemed to give some relief. The rapid development of severe anemia is one of the characteristics of rheumatism in childhood, and this needs to be met as soon as possible by the administration of ferruginous tonics. Indeed, as a matter of fact, the treatment of the acute attack itself is nearly always very simple. The point to be remembered is the necessity for keeping these children under constant observation for long periods of time. The

danger of cardiac involvement, grave under any circumstances, is heightened by the tendency to frequent recurrences. The after-treatment is, therefore, of importance. One very necessary factor in this after-treatment is rest.

**TREATMENT OF PYORRHEA ALVEOLARIS.**— Caumartin (*Écho médical du Nord*, Nov. 23, 1902) says:

First of all, sugar in the urine must be looked for in all subjects of pyorrhea alveolaris. If glycosuria is present, treat accordingly. In the same way, the regimen and therapy usual in gout or albuminuria must be prescribed when necessary.

The cul-de-sac between the tooth and the gum is the seat of the disease. In an acute attack of a single tooth, take a small curette and remove the tartar from the neck of the tooth. Compress the gum, to evacuate the pus from the gingival cul-de-sac. Then, by means of a very fine stylet, or better with a small flexible needle tipped with absorbent cotton, paint with tincture of iodine the interior of the cul-de-sac and the gum around the neck of the tooth. The effect is usually rapid. This application may, if necessary, be renewed the next day; the tooth becomes less sensitive and resumes, in part, its solidity.

When many teeth are affected, the treatment follows still the same general lines. Remove carefully the tartar, pus, and epithelial débris which fill the gingival cul-de-sac. With the small needle before spoken of, paint the cul-de-sac with monohydrated sulphuric acid. Leave no corner untouched; seek out the smallest points of loosening of the gum from the tooth, and particularly in the interstices between the neighboring teeth. It must be borne in mind that the affection is very rebellious, and a single cauterization will not suffice. The application must be renewed twice weekly for a month, and recommended after a period of rest, according to the result obtained. The congested

points of the gums should be touched with the galvano-cautery. The most minute hygienic instructions must be given. By the assiduous use of the toothbrush and toothpicks, the lodgment of particles of food in the interstices of the teeth must be prevented and a relative asepsis of the mouth must be obtained by frequent and prolonged mouth-washes. By these means one may effect, if not a cure of teeth affected with pyorrhea alveolaris, at least a delay in their loss and the preservation of the neighboring teeth from infection.

When nearly all the teeth are affected, and there are fungosities of the gums, it is useless to attempt to save the teeth, and the best measure is progressive extraction, with a view to suppressing the focus of suppuration, which may otherwise injure the general health.—*N. Y. Med. Journal.*

**RHEUMATISM.**—The ordinary measures of hygiene and diet must be enforced. All exposure to cold and wet and heavy labor must be prevented. As for therapeutic measures, we should employ pilulæ ferri iodidi for at least two months after the attack.

For the attack we may employ sodii salicylas in  $\text{xx}$  gr. doses, *t. i. d.*, and the liniment. Gaultheriæ locally. A very good routine prescription in all such cases is the following :

(a) *General:*

R Sod. Iodidi..... 3 ii  
 Sod. Salicylas..... 3 iii  
 Syr. Sarsaparillæ Comp. q. s. . . . f3 iii  
 M. S. 3i, *t. i. d.*, after meals.

(b) *Locally:*

R Ol. Gaultheriæ..... f3ss  
 Liniment. Chloroform..... f3iiss  
 Sig. Locally, night and morning.

I am no believer in the use of an ice-cap in the treatment of fever due to rheumatism. It must also be remembered the salicylates should not be continued too long, as they affect the blood and secondarily act as depressants. Four or five days is a sufficient consecutive period, when we can substitute if necessary.—*Medical Times*, July, 1903.

**COLCHICUM IN GOUT.**—S. G. Bonney (*Med. News*, June 13, 1903) writes as follows:

The preparations of colchicum which are most widely used are the wine of the root, the wine of the seed, the acetate, and the alkaloid colchicine. Among the early writers the wine was the favorite form, given either alone or combined with carbonate and sulphate of magnesia and some aromatic water, as recommended by Garrod. Scudamore preferred the acetate, being convinced by various observations that he made, that "the acetic acid takes up all its active properties and produces the good effect of which the drug in its other forms is capable, and is not chargeable with any one ill consequence." I think that the favorite preparation in use to-day with the majority of physicians is the wine, though for my part I invariably use the alkaloid colchicine, believing that I get better and more constant results with it, with less danger of the disagreeable consequences which often attend the administration of the other forms; besides which it seems to me to be much more reliable, and is certainly far pleasanter to take.

The method of its administration differs among its warmest advocates. Many believe that, in order to insure its prompt anodyne and controlling effect in an acute attack, it is necessary to exhibit it in fairly large and frequent doses to the point of active purgation, then diminishing it only so much as to keep frequent watery stools. A recent text-book on therapeutics advises its administration in this way. I do not think that pushing it to this extent is ever necessary, and thoroughly believe that the ill effect upon the heart and the extreme prostration sometimes seen are entirely due to this cause. I quite agree with Dr. Gardiner, who says in his work on gout, "Colchicum never more effectually relieves the patient than when it acts silently and peacefully, without producing any evacuation whatsoever, or in any way disturbing the patient's comfort and ease." When the acuteness of the attack

has passed, in the interval between attacks, or in chronic gout, small doses may be advantageously given and continued for a considerable length of time. From various observations I am convinced that the employment of alterative doses of this kind will not only do much toward relieving the discomfort of chronically affected joints, but will also act decidedly in preventing acute exacerbations. Ewart and others object to a long-continued use of the drug because of the danger of establishing a tolerance to it, and thus losing its aid when an acute attack supervenes, and Garrod objects to it because of its cumulative action. I must confess to never having seen either of these effects, though I have often used it for weeks and months at a time. In the book already referred to the author says that care must be exercised in its use, lest retrocedent gout should occur, owing to the manifestations of the disease leaving the toe and going to the internal viscera. I have seen gout affect the internal viscera, though rarely, but I believe it is much less likely to occur with its administration than without it.

PROPHYLACTIC TREATMENT OF ECLAMPSIA — B. M. Hypes (*Inter-State Medical Journal*, June, 1903) says :

Contrary to the usual custom, I have left the prophylactic treatment to be considered last. I do this for the reason that I regard it the more important. As before stated in this paper, the pathogenesis of this disease is in doubt. The best practitioners differ as to its therapeutics, but there can be no question as to the truth of the statement that almost all of the cases of eclampsia may be prevented if proper prophylactic treatment be instituted. Remember, the defensive organs—kidneys, liver, and possibly the thyroid gland—are at fault. A large per cent. of the cases are associated with renal disease or insufficiency. This abnormal condition of the kidney every practitioner of medicine should be able to diagnosticate. But how

many of us take the trouble to examine the urine of the pregnant woman weekly or monthly, as we should? Renal insufficiency ought to be early recognized, and proper treatment at once inaugurated. Were this universally done, many women who now fill premature graves might be alive and happy with their families to-day. Puerperal eclampsia should be recognized as a preventable disease, and as great care should be exercised by the physician to avert it as he employs in the prevention of puerperal sepsis.

The prophylactic treatment will be hygienic and medicinal. With albuminuria, edema, persistent headache, vomiting, disorders of the special senses, hypogastric pain, and other prodromata, the patient should be put upon a strictly milk diet. Milk is almost a specific for the renal affections of pregnancy. Pinard, at a meeting of the Paris Academy of Medicine, in 1893, said : "Thanks to this precaution I have not observed a single case of eclampsia in more than five thousand women admitted to the Baudelocque Lying-in Hospital since 1889."

Farinaceous food, white meats and fish may be allowed as symptoms improve. Not only should constipation be avoided, but, with toxic symptoms, daily free catharsis by salines should be insisted upon. Thus the liver is kept active, and there is no doubt that, in some cases, it is the guilty organ. By these means the toxemia is lessened without impoverishing the blood of its red corpuscles. In addition to milk diet, plenty of pure water should be taken to flush the kidneys. None but mild diuretics are permissible, owing to the overworked condition of the kidneys. A warm bath should be given daily to promote diaphoresis. Flannel clothing should be worn to protect against chilling of the surface of the skin. Fresh air, sunshine, proper exercise and rest should always be insisted upon.

Medicinal treatment for toxic symptoms will include cathartics, diuretics, diaphoretics, nerve and heart sedatives, and



possibly thyroid extract, and such general tonics as may be indicated. All these measures failing to give relief and the patient growing worse, the induction of abortion or premature labor will be justified.

**THERAPEUTIC FACTS.**—Chas. A. Labenberg (*Virginia Medical Semi-Monthly*, July 10, 1903) says:

How many of us stop to consider, in the use of the common, every-day drug spirits of nitrous ether, that the results obtained depend largely on the method of administration — *i. e.*, as an antipyretic in febrile affections it should be given in doses of twenty to thirty minims every half hour. To produce diuresis the drug should be associated with some other diuretic and given in large doses from one to two drachms every three or four hours. If the drug is desired for its diaphoretic action it should be given in hot water, twenty or thirty minims, and the dose repeated every half hour, patient in the meantime being well covered. As a nervous stimulant the dose should be large, never less than one drachm.

In the use of the bicarbonates to reduce the acidity of the urine the drugs should always be administered after meals. This is a point we all know when our attention is called to it, but we often prescribe the drug for gonorrhea (where we wish to reduce the acidity of the urine) and the patient is told to take the medicine three times a day, which he may do, and often does, regardless of an empty or full stomach, and if taken after the former, will increase, instead of decrease, acidity.

Do we always stop to think that a bitter, to be beneficial, should be given before meals, and that one bitter should be substituted for another if they are to be continued? If not, the stomach will revolt. Or to think that, when the digestion is impaired and the appetite good, it is an indication that the indigestion is intestinal, and, therefore, beyond the influence of bitters? Or that in catarrhal conditions of the stomach (as in chronic gastritis or

drunkards' catarrh of the stomach) alcoholic preparations of the bitters should not be given, using instead the aqueous preparations, such as infusion, or that the bitters are of no avail in organic diseases of the stomach when the secretion of gastric juice is diminished?

**HYDROCHLORIC ACID IN GASTRITIS.**—Geo. W. Pfromm (*The Medical Bulletin*, August, 1903) says:

The great agent in the treatment of stomach trouble is the official diluted hydrochloric acid. It is particularly indicated and beneficial when its proportion in the gastric juice is reduced below the normal. Being a natural constituent of that digestive fluid, when we administer hydrochloric acid medicinally we are supplying to a gastric secretion of impaired quality a necessary element. Hydrochloric acid is an antiseptic, but it does not, like turpentine, promote the secretions of the mouth. In those cases of indigestion accompanied by a sour taste in the mouth, this feature may be due to the presence of hydrochloric acid in excess or to the occurrence of lactic acid fermentation. This question can be settled absolutely by an examination of the contents of the stomach. Hydrochloric acid checks morbid fermentation, and, moreover, it stimulates the gastric glands to restore a proper amount of its normal content. This acid is administered in doses of ten minims in some diluent vehicle after each meal. In severe cases the remedy is preferably given five or six times in the day. Both nitric and hydrochloric acid should be taken in an abundance of water and through a tube in order that the acid shall have no opportunity to corrode the enamel of the teeth. As a further precaution against such a misfortune the patient should be directed to rub the teeth, immediately after the dose has been swallowed, with a solution of an alkali, as sodium bicarbonate or common table-salt. It is true that the amounts which I have cited are not at all in proportion to the ratio present in normal gastric

juice, but our object is not merely to supply a deficient component of the fluid, but also to encourage and assist the stomach to increased and improved secretion.

A satisfactory vehicle in which to administer hydrochloric acid is the elixir of lactopeptin, which is said to contain the combined ferments of the stomach and bowel. The acid may also be fittingly given in the glycerite of pepsin. It is often combined with peppermint-water or a bitter tincture.

Another method of taking hydrochloric acid is for the patient himself to drop five minims into a capsule, which must be quickly swallowed, followed by a draught of water and by a second capsule of five minims with a second drink of water. The whole process must be speedily performed, because the acid will dissolve the gelatin in a moment.

COUNTER-IRRITATION IN ACUTE NEPHRITIS.—A. H. P. Leuf (*The Medical Council*, Aug., 1903) writes as follows:

The best form of counter-irritation consists in dry cupping the entire lumbar region. This is best done by freely greasing the back, and then setting fire, in a good-sized tumbler, to a piece of paper previously wet with alcohol. Before this is entirely burned out, the mouth of the glass is quickly pressed against the skin, against which it is firmly held. The absence of oxygen immediately extinguishes the flame. The cooling of the little remaining heated atmosphere in the glass causes it to contract, and the skin covered by the glass quickly mounts up within it as far as its elasticity enables it to go, and it, in turn, becomes suffused with extravasated blood forced out of its containing vessels by the partial vacuum that has been formed in the glass. When sufficient blood has been drawn to the surface, the glass is slid along over the greased skin to similarly draw blood to the surface of a like adjacent area, whence it is again moved to another region, and still others in succession after that has become

suffused with blood. This has been called "railroad" dry cupping. In lieu of this, an active mustard plaster, followed by heat, preferably a hot-water bag because of its convenience, forms a good substitute. A hot mustard bath, with subsequent wrapping in hot blankets, also tends to relieve the renal engorgement by determination of much of the blood bulk to the cutaneous surface.

PHLEGMASIA ALBA DOLENS.—H. M. Stowe (*N. Y. Medical Journal* and *Phila. Medical Journal*, August 15, 1903) says:

When phlegmasia dolens has occurred despite our prophylaxis, the patient, if not in bed, should be placed there at once and kept quiet. The affected limb or limbs should be elevated upon an inclined plane and be enveloped in a compress of gauze retained by a roller bandage. The limb should be raised about six or seven inches, not more. During the acute stage much relief can be obtained by keeping these compresses as hot as can be borne. No massage should be allowed early in the disease.

For the pain morphin is at times indispensable. When less severe, codeine or antipyrin may be substituted. An excellent combination is the following:

|                                |       |
|--------------------------------|-------|
| Extracti opii (aqueous).....   | 1 gr. |
| Extracti belladonnæ.....       | ⅛ gr. |
| Extracti cannabisindicæ ....   | ¼ gr. |
| Extracti hyoscyami (alcoholic) | 1 gr. |

Fiat pilula No. 1. Sig. Take a pill every three hours.

The bowels should be kept open by salines, preferably the magnesium sulphate. Cardiac tonics are indicated for many patients, and for this caffein, strychnin, and strophanthus will best serve our purpose. Ammonium carbonate, in doses of ten to twenty grains, three times a day, is reputed effectually to hasten the absorption of the exudate.

When the subjective symptoms have ameliorated, measures should be taken to remove the semi-solid material from the tissues. Gentle massage, gradually increasing in vigor, is of benefit after the

first week. Probably the best method of treating the subacute stage of phlegmasia alba dolens is by the use of hot, dry air. The earlier this treatment is instituted the better are the effects, and *vice versa*.

The well-protected limb is subjected to a dry heat of 400° Fahrenheit, for an hour. A decided local diaphoresis will occur, and the inner layers of the towelling will be found saturated with serum. This moisture evaporates quickly by aid of the great heat, and thus the apparatus acts as a continuous drain. A certain amount of gelatinoid material must of necessity be removed with the serum by this method, while the circulation, augmented and stimulated, carries away still more of it. After the bath the limb is massaged, and the treatment is daily given until great improvement is obtained. In some cases the bath is given twice daily, in others only two or three times a week.

The influence of this treatment upon the general system is noticeable. The appetite is increased, the bowels are regulated, sleep is produced, and the skin becomes more active. As the limb returns to its former condition, the baths are used less frequently.

Potassium iodide, or preferably the proto-iodide of mercury, is to be given for weeks and months, the latter in doses of a quarter of a grain four times daily. Calomel in small doses is also of advantage. The customary rules of hygiene and dietetics should be carefully carried out.

POST NASAL CATARRH.—F. W. Davis (*The Cincinnati Lancet-Clinic*, June 20, 1903) says:

Post-nasal catarrh is the most annoying complication of chronic rhinitis, and requires the most careful treatment by the rhinologist. The patient complains of the mucus which lodges in the naso-pharynx and causes the disagreeable hawking and spitting. The thick, tenacious mucus irritates the pharynx, which is always more or less congested, and often causes laryngeal disease as well. The attempts to dis-

lodge the mucus often cause vomiting, especially on arising in the morning. This disease is always caused by some obstruction which interferes with proper drainage, and the nose, naso pharynx and pharynx must be carefully examined for such. In the great majority of cases the cause will be found in the middle turbinated body, which is hypertrophied and in contact with the septum. When this is removed and space between the remaining part and septum restored there will be a rapid amelioration of the symptoms. Spurs and ridges on the septum should be removed, and any considerable deflection of the septum should be corrected. Adenoid vegetations should be removed, as should the faucial tonsils, if much enlarged. The inferior turbinated body is not as important a factor in causing this disease as is the middle, but if sufficiently enlarged to touch the floor of the nose or the septum the enlarged part must be removed. Disease of the sphenoidal sinus, though comparatively rare, makes successful treatment difficult. Sprays, etc., applied to the naso pharynx are often irritating, and at best only palliative. Rational surgical measures, the correction of bad habits—smoking, drinking, etc.—and the use of an unirritating alkaline wash in the nose will almost always cure the trouble.

COLICA MUCOSA.—Von Noorden and Dapper (*Centralbl. für die gesammte Therapie*, 1903, Heft 4) say:

The treatment is to be directed symptomatically against the attacks and according to the etiology against the constipation and the general neurotic condition. During the attack rest in bed tends above all else to quiet the intestines, particularly if accompanied by hot abdominal compresses. Laxatives are not advisable, rather narcotics, either as a hypodermic injection of morphine or as suppositories, such as extr. opii., extr. belladonnæ  $\text{āā}$  0.04, which almost invariably quiet the attack of pain. The next indication is to expel the mucous masses. Irrigations



with water at body-temperature yield, without pain, large quantities of mucus. No irritating substances, such as salt, glycerine, or soap, should, however, be added, as these give rise to a true paroxysm of pain and spasm of the intestine, preventing the entrance of the water to higher portions of the intestinal tract. It is also noteworthy that the first enema only brings forth mucus, whereas higher up, where the water, as a result of the spastic contraction, did not penetrate, lie hard scybalous masses that must by all means be removed. Therefore it is well to give one to two hours after the water irrigation a high enema of oil (300 to 500 cm.), which should be retained as long as possible. The patients usually hereupon fall asleep under the influence of the narcotic. On waking up, oil, mucus, and feces are emetied, free of pain. The attack is overcome.—*Interstate Medical Journal*, June, 1903.

HELMITOL.—L. H. Schwerin (*International Journal of Surgery*, July, 1903) says:

Recently attempts have been made to prepare a formaldehyde derivative in which this substance would be more readily separated and in such form as to be devoid of irritating effects. The outcome of these experiments is a new drug named helmitol, which is chemically hexamethylen-tetramin-anhydromethylene citrate. It is stated that both the methylene citric acid and the hexamethylen-tetramin contribute to its action by setting free formaldehyde, and that it acts equally well whether the reaction of the urine be acid or alkaline. Moreover, the drug has a very pleasant taste, seems to cause no digestive disturbances in fair-sized doses; and no irritation of the urinary passages; on the contrary, I have noticed that it manifests a distinct analgesic action in cases of marked urinary irritation, rapidly producing a diminution of the hyperesthesia so often present in urethritis and prostatitis.

As regards the dosage, I would state that fifteen grains three times daily for two or three days is a good dose to begin with, but when the desired effect has been produced it is advisable to reduce the dose to five grains, three times daily, that being sufficient to maintain its influence. This, of course, applies only to the average case. It must be borne in mind that all preparations that set free formaldehyde should be given in liberal quantities of water, preferably aerated mineral waters, and these should be used freely during the period of their administration. Occasionally during their use the patient will complain of an uncomfortable dryness of the throat, but, as a rule, this will occur only when too little water is being taken.

The new drug, like its prototype, ammonium formaldehyde, is indicated in all cases of cystitis, prostatitis, suppurative diseases of the kidney, and, in fact, wherever an internal urinary antiseptic is required. Of course, later observations may serve to modify the above remarks regarding helmitol, but from my experience I am inclined to think very well of it.

OLIVE OIL AND GASTRIC ULCER.—The internal use of olive oil as a remedy is evidently not readily to be blotted out. Walko (*Centralblatt für innere Medizin*, 1902, No. 45; *Berliner klinische Wochenschrift*, July 13, 1903) finds that, by reason of its being absolutely unirritating, of its high nutritive value, of its slight susceptibility to decomposition in the stomach, of its decidedly restraining influence on the hydrochloric acid reaction of the gastric juice, of its efficacy in overcoming constipation, and of its relaxing and protective action, it is of the greatest service, especially as an anodyne, in ulcer of the stomach. He thinks it gives the best results when associated with bismuth subnitrate.—*N. Y. Medical Journal*, Aug. 15, 1903.

The salicylates or their derivatives act almost specifically in relieving the pain of erythema nodosum.

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## Original Articles.

### *CATARRHAL INFLAMMATORY AFFECTIONS OF THE GALL-BLADDER.*

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Catarrh of gall-bladder seems to be common. There may be simple catarrhal, suppurative, or gangrenous forms. Larger bile ducts and gall-bladder are lined with mucous membrane having cylindrical epithelium and ordinary racemose glands like other mucous passages. Such passages are subject to catarrh, acute and chronic. Peculiar symptoms occur in different passages. The acute catarrhal inflammation of bile ducts is evanescent in its course; but, if severe, is characterized by jaundice, which usually is the symptom which alarms the patient and causes him to seek aid from a physician.

This form is known as catarrhal jaundice, occurs more frequently in young persons, and usually is an accompaniment or sequence of dyspepsia or exposure to cold.

The tumescence which accompanies acute inflammation of the mucous membrane and the small calibre of the bile ducts may readily explain the occurrence of icterus, notwithstanding the absence of proof from autopsies. No examinations after death have been reported, for if the case progresses to a fatal termination, some other element has entered and the character of the disease changed. Still, careful observation of autopsies will show

such condition, although it may not have contributed to the cause of death.

Perhaps the usual cause of acute catarrhal jaundice is extension of inflammation from the duodenum; other causes are gastric intestinal catarrh, exposure to cold, extension of inflammation from liver, carcinoma of liver and ducts, gall-stones, hydatids, pneumonia, and infectious fever.

The cases which give most trouble to the diagnostician are those of mild catarrh. If the tumefaction is not sufficient to cause closure of the tube and marked jaundice, it may be overlooked. In these cases often a physician must decide upon a course of treatment from very indefinite symptoms. Bad taste, coated tongue, slight or no nausea, anorexia, eructation of gas, slight or no fever. If there is enough swelling to cause a mild degree of obstruction — partial obstruction — the skin may assume an earthy, grayish, or sallow color, the eyes dull.

The degree of jaundice depends upon tumescence, but not always, in accordance with severity of symptoms. In many cases jaundice appears without other marked symptoms. If the case be brief, general health may not be much affected; if prolonged, it may be seriously affected, nutrition perverted, and the blood so much impaired that recovery is slow. In prolonged cases the liver and gall-bladder are enlarged, but if the case is slight nothing of the kind may be observed.

Two weeks is about the time this condition requires to complete its course, but if the case is neglected or improperly treated it may be prolonged to six or eight weeks, and occasionally some serious condition may arise, especially permanent or greatly prolonged enlargement of the liver.

*Case 1.* I had an opportunity lately to observe the results of gall-stones which had apparently been accompanied by catarrhal inflammation. The case was that of a lady, 89 years of age, who had suffered severe attacks of pain occasionally in younger life, but never called a physician; hence, a diagnosis had never been made. During her last illness following hemiplegia I attended her, and in the course of an examination discovered a tumor in the region of the gall-bladder. I obtained permission to make an autopsy, and found the gall-bladder enlarged, lengthened to about five inches, and filled with a dark grumous liquid. In this liquid was a concretion one inch by one and a quarter inch in size, ovoid in shape, composed apparently of a great number of smaller concretions or common gall-stones. The adjacent ducts and the cystic mucous membrane showed evidence of former inflammation, and the membrane was atrophied. The liver was enlarged, and the stomach walls also gave evidence of former inflammation. The gall-stone was worn smooth by friction by the many years which had elapsed since the formation of the concretion.

In the severer forms the diagnosis is usually not difficult. The pain, the jaundice, the recurring attacks, and often the tumor in the region of the gall-bladder render the diagnosis comparatively certain. Still, mistakes have been made, and operations have been performed where only a catarrhal condition was found, with some dark mucous, ropy fluid, containing semi-solid particles resembling grains of boiled sago. The usual result, however, is more like—

*Case 2.* In this case there had been many attacks of severe pain in the region of the gall-bladder, lasting from three or four hours to as many days. Operation was advised time and again, but was always postponed because of the patient's desire to try medication a while longer. The interval between the attacks had grown longer, and the patient was hope-

ful of recovery without resorting to the knife. The last interval was six months; but when the attack came it was more alarming, the pain was excruciating, the jaundice and other symptoms were more marked than in former attacks, and the patient fell into almost a moribund condition, while it was with the greatest difficulty that she could be rallied sufficiently to go to the hospital, where it was desired to have the operation performed.

The gall-bladder was found inflamed; it was greatly enlarged and contained 151 gall-stones, varying from a pin-head to a hickory-nut in size (1-16 to 1 inch). The progress of the case after operation was uneventful, and she made a complete recovery.

Catarrh of the bile-ducts probably accompanies jaundice from whatever cause, and is at times a concomitant of cancer of the liver, cancer of the pancreas or other organs. I saw one case where the condition was very complicated.

*Case 3.* C. R., aged 62, had been ill for four years, but had not surrendered his place at the desk in a large business until a few months before I saw him. He had consulted several eminent physicians for a degree of jaundice and severe pains, accompanied by emaciation and loss of strength. When I first saw him, he was somewhat emaciated, jaundiced, a tumor in the right hypochondriac region extending to the crest of the ilium, and somewhat tender. There was tenderness over the entire stomach, and the principal symptoms were those of chronic gastritis. The liver was not tender except over the region of the tumor, the cause of which was not agreed upon by different physicians. Some had advised operation for gall-stones; others had suggested that delay would be better. The latter advice had been followed, and because of the obscurity of the case and the doubt as to the probable result of an operation, when it came into my hands, I advised delay. Soon the symptoms of nausea, vomiting, indigestion, and pain became alarming,



and I gave a grave prognosis. For several weeks the patient continued in this condition of suffering — anemia, jaundice, indigestion, and rapid emaciation. Finally death resulted and an autopsy was allowed.

*Autopsy.* Skin dry, jaundiced; emaciation marked; pancreas, left kidney and omentum in a state of cancerous degeneration, and the stomach showed evidences of chronic inflammation, with some thickening of the walls.

The gall-bladder was enlarged and distended. It measured  $5\frac{1}{2}$  inches in length by 3 in width. The walls were slightly thickened, and the dark, ropy liquid contained in it held 157 gall-stones, varying in size from a split pea to a filbert ( $\frac{1}{8}$  to  $\frac{3}{4}$  inch).

A still more interesting class of cases, and one more rare than those already mentioned, is that rare form of subacute catarrh which is accompanied by few, if any, definite symptoms, and yet may result seriously. The following case will illustrate this class of cases very well.

*Case 4.* Mrs. C., aged 38, mother of one child. Had always considered herself in typically good health. I had been her physician for twenty years, but never was called to prescribe for her for anything more severe than a diarrhea, apparently due to weather changes, and lasting but a few days. She had no unusual difficulty in labor. Her baby was a year and a half old at the time of her last illness.

When I was called the patient was in great pain, and extremely nervous. I was told that she had not been well for several weeks, but there were no well-defined symptoms described which I could connect with this sickness. She grew rapidly worse. An operation for gall-stones was suggested, but the patient refused. She died in sixty hours.

*Autopsy.* Body well preserved; no jaundice; stomach and other organs in good condition; gall-bladder  $4\frac{1}{2}$  inches long, the walls  $\frac{1}{4}$  inch thick. A dark, ropy

liquid filled the gall-bladder; the walls were black and showed evidences of catarrh. It contained forty-two gall-stones and several particles like grains of boiled sago. Gangrene of the fundus of the gall-bladder and of the adjacent structures was quite extensive, and was evidently the cause of death. The gangrenous structures were covered by a whitish mould, and the tissues were easily torn.

It is clear that an operation could not have saved this patient if performed at any time subsequent to the time of calling the physician.

Gangrene of the gall-bladder is a rare affection. This is the only case I have ever seen, and the literature mentions but few. In this case there had apparently never been any other condition than that of catarrh of the bladder, until the fatal illness.

*Treatment.* The prophylactic treatment is very important. In fact, that is where the physician's work is most valuable. After a catarrh of the gall-bladder or bile-duct has passed to a condition where the passages are partly closed, pain usually occurs, especially if the bile is inspissated, and always if gall-stones have formed and attempted to pass through the ducts. Some of these cases even seem to yield to medical treatment; but perhaps most of them will entirely recover only after operation.

A number of cases in my practice have seemed to recover, at least have for several years been free from severe attacks of inflammation, incipient gall-stones, or marked illness, which could be attributed to catarrhal inflammation of the gall-bladder or bile-ducts. Like many other physicians, who believe in the value of drugs, I have assumed that these recoveries resulted from positive medication.

It is not always possible for the physician to tell just how his treatment produces a cure. Still, if one recovery after another is met following similar treatment, he is justified in concluding that the recovery was due to the treatment.

Believing that indigestion, or at least impaired or retarded digestion, has something to do with many of these cases, I direct my treatment toward correcting such trouble. I often prescribe pepsin and aromatic sulphuric acid combined with some laxative. One case recovered after a several months' course of blue mass once or twice a week. It is well in many cases to combine some vegetable laxative with the mercury. The mercury once a week, and phosphate of soda three to six times a week, do well in other cases. I have used a combination of blue mass, podophyllin, aloin, belladonna, and ipecac for several years, with beneficial results in this class of cases. I have found some cases do better on calomel or blue mass once a week and small doses of Epsom salts three to six times a week. Many cases recover by using two or three ounces of salad or olive oil three to six times a week. Where mercury cannot be borne in any form, and Epsom salts is objectionable, phosphate of soda and olive oil (taken alternately, each three times a week) may be given.

A reduction of meat and fats in the diet is usually beneficial. Especial attention should be given to prevent any degree of constipation. Exercise, moderate diet, avoidance of constipation, and regular habits of life are essential.

A NEW METHOD OF ADMINISTERING OILS.—H. Boissel remarks that the facility with which castor oil can be given in frothing beer is well known to all practitioners. It is, however, not always easy nor advisable to give beer, therefore he has devised a frothing mixture which serves the same purpose. It is in the form of a powder, composed of gum arabic, liquorice, and lactose, flavored with vanilla. A pinch of this powder, shaken with a little water, produces a very persistent froth, in which any oily substance as cod-liver oil, castor oil, iodized or phosphorated oil can be given, as well as medicines lighter than the mixture, such as the salicylate of methyl, essence of santal, etc., without the slightest unpleasant taste. — *Gazette Hebdomadaire des Sciences Médicales*, Nov. 8, 1903. — *Medical Record*.

## REST.

By J. W. WAINWRIGHT, M.D., New York City.

Rest is the means whereby the human body seeks to right itself when any one or more of its functions are fatigued by excess of work or energy applied. In disease, we ought, therefore, always to bear this principle in mind in aiding a diseased member or organ of the body to recuperate itself. Rest is the fundamental principle of every treatment. Certainly, the first advice to a sick patient is to go to bed and rest. Any remedy that will further the rest in very irritable patients should be applied as accessory. Cheerful surroundings and quiet, cool temperature are most conducive to rest. Drugs of a sedative nature, as opium, bromides, etc., should not be used systematically for fear of engendering a habit.

Neurasthenia — nerve fatigue — is the malady where "Rest Treatment" has won its greatest laurels. Such a treatment carries with it everything conducive to rest to the minutest nicety. The invalid must be spared contact with individuals, family members, and surroundings which will call forth exertion, bodily or mental, on his part, and yet he must not feel his isolation, as this, in turn, is wearing on him. To obviate the latter, an agreeable companion of liberal education is the best means, and when this companion no longer appeals to the patient, a change must be instituted.

All the functions of the body must be kept active. Feeding is to be systematic and at frequent intervals. Laxatives are called for, while massage prevents the wasting of the muscle-system and is conducive to producing a fatigue ending in sleep. Rest to the mind, from the facts which have preyed upon it to its detriment, is secured by aiming to have the companion a good conversationalist and pleasant reader. These are most potent factors, if rightly wielded, to soothe the mind. Everything is taken out of the pa-

tient's hands, and all his needs being supplied to him, he rests each and every organ to the point of thorough restitution.

In diseases of the joints, greatest reliance is placed on immobilization of the joint. To accomplish this rest, we resort to the use of splints and Plaster-of Paris bandages. Splints, whatever their nature, should always be extensive enough to set at rest the muscles which operate on the joint.

The use of splints greatly hastens the healing of wounds by limiting the motion of parts. The pain of any organ can best be quieted by putting it at rest. Evidence of this is frequently apparent by surrounding the side of the chest, affected by pleurisy, with a broad strip of adhesive plaster. This limits respiratory movements, and puts at rest the inflamed pleura. In valvular affections of the heart, when compensation gives out, merely prolonged rest in bed, with light diet and absolutely no medicinal remedies, will see the heart muscle regain its normal tone.

Obstinate vomiting due to disease of the stomach can be allayed by resorting to rectal feeding, thus giving the stomach complete rest.

The exhaustion of any group of muscles, known as "writer's cramp," "telegrapher's cramp," is due to overuse of certain muscles; therefore, a foremost expedient to restore them is absolute rest, abstinence from the particular vocation.

For sciatica, rest of the muscles enervated by the sciatic nerve is often an efficient remedy. This rest is accomplished by the application of a splint to half the side of the body. In very severe attacks this may have to remain many weeks. Lumbago very promptly yields when broad strips of adhesive plaster firmly applied to the loin set at rest the muscles.

Countless instances might be multiplied where rest, unsupported by medicinal means, alleviates pain and accomplishes cure. Sedatives in general are depended on to give rest; but most to be relied up-

on is a judicious use of opium, whose good effects, so apparent in peritonitis, laryngitis, and heart disease, are mainly due to the rest of the various organs it insures.

Feeding while undergoing the rest cure is of so much importance that it should be very carefully supervised by the attending physician. As much nutritious food should be given as will be assimilated, care being exercised not to derange the digestion, and it should be given at frequent intervals, every two to three hours. Milk affords a palatable diet to most invalids, and generally is easily digested. It should be skimmed, and given either hot or cold, as will be most pleasing to the patient. Koumiss is relished by many. Beef juice or bouillon, in which an egg has been stirred, will at times appeal to the sufferer.

If there is constipation, milk may have to be temporarily discontinued, or laxatives given. This condition may often be corrected by changing the diet, giving, with some cereal, dried fruits; prunes being among the most useful and agreeable. Later in the cure, steak or mutton chops may be given with the milk; but solid food should be approached gradually.

In addition to massage, already mentioned, bathing with salt water or sea brine should be practiced daily by the nurse, the patient remaining perfectly passive. At times this may be followed by a rubbing with alcohol, especially when there is great exhaustion.

Electricity in the form of the faradic current is useful in producing muscular contractions, and when applied should be directed to all the muscles of the trunk and extremities.

The rest cure requires much patience of both the attendant and sufferer, but, if persistently followed up for a sufficiently long time, will give results often surprisingly satisfactory.

The *conditio sine qua non* is rest and quiet; rest to that extent that the patient is, in the first period of the treatment, to remain ab-



solutely passive in bed, the nurse handing and taking everything. The patient must not be allowed to leave the bed when passing the feces and urine. The toilet must also be attended to by the nurse. After a time, the patient may be allowed to sit up, and to undertake such exertion as driving or walking. A few weeks in some quiet place, away from home influences or business cares, will usually complete the cure.

### CLINICAL OBSERVATIONS ON ACTION OF METHYLENE BLUE IN GONORRHEA.

By CLARENCE G. CLARK, M.D., New York,

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During the past seven or eight years methylene blue has come into considerable prominence in the internal treatment of gonorrhea. It is a powerful germicide and has the advantage over other similar agents, which may be administered internally, in that it appears unchanged in the urine within two to four hours after its administration. Dr. Austin Flint, in an address, delivered before the New York State Medical Association, May 1895, cites two or three cases in which methylene blue alone was used and in which the discharge diminished rapidly and was entirely gone by the sixth to ninth day. My results with this drug have not been so pronounced, but they have been remarkably satisfactory. I have found it better to combine the injection or irrigation treatment of the disease with the internal administration of methylene blue.

The dose of this coal-tar derivative varies from 1 to 1½ grains. It is best administered in gelatine capsules, and on account of the irritation of the neck of the bladder, which it causes when administered alone, it is best combined with oil of cinnamon in 1-minim doses, or oil of nutmeg in ½-minim doses. The ordinary balsamic remedies for gonorrhea

may be combined with these drugs in the same capsule; they are desirable adjuvants on account of their diuretic qualities.

A short review of the therapeutic properties of this drug might be desirable. Ehrlich and Lippmann were the first to employ it in rheumatic and neuralgic affections, and in all cases reported an analgesic action. In cases of insanity and hysteria the drug has proved of value. It has also been used as a diagnostic agent in determining the permeability of the kidneys. Many authors claim a specific action for it in malaria.

In gonorrhea its therapeutic value was discovered quite accidentally, Dr. Austin Flint being the first to use it in this disease.

My experience with methylene blue in gonorrheal affections began about three years ago, at which time my attention was first called to its action by an article of Dr. O'Neill, in the *Medical Record* of March 24, 1900. I found that its action varied with the quality of the drug used, the commercial methylene blue being substituted in a great many instances. This is a poisonous preparation and one should be careful that it is not dispensed.

My original prescription was as follows:

|   |                           |           |
|---|---------------------------|-----------|
| R | Meth. Blue.....           | gr. i     |
|   | Ol. santali,              |           |
|   | Ol. copaibae.....         | āā m iiii |
|   | Ol. cinnamon.....         | m i       |
|   | M. et. ft. caps. d. t. d. |           |

I gave one of the capsules every four hours in combination with injections of either potassium permanganate, or one of the silver albuminoids, *i. e.* argyrol, protargol, etc.

I experienced good results from the start, the discharge and pain diminishing much more rapidly than they did under the injection treatment alone.

One case especially led me to test it thoroughly. That was a case of chronic posterior gonorrhea, in which everything had been tried without success. Whether from coincidence or from the actual therapeutic value of the drug, a cessation of the discharge occurred almost at once upon the administering of these capsules.

My experience since that time has led me to believe that the latter was the case, however.

As stated before, the difficulty in obtaining a methylene blue which would be free from adulteration has been great, and of late I have been using a capsule prepared and sold to the retail drug trade under the name of San-Methyl Capsules. The formula in these capsules is very similar to the one given above, and their chief advantage is that the methylene blue in them is uniformly the same: a chemically pure medicinal agent. They are soft gelatin capsules, and have the following formula:

Methylene blue 1 gr., with oil santal, oleoresin cubebs, balsam copaiba, oleoresin matico, salol, and oil nutmeg.

The addition of the salol and the oleoresin matico is the only difference between this capsule and the first one used. These should be administered every four hours during the acute stage of the disease, stopping them for twenty-four hours every three or four days, to allow the excretion of any accumulated methylene blue.

During the chronic and subacute stages they may be given three times a day. In connection with this internal treatment, injections of potass. permanganate, 1-1000, or argyrol, 3 to 5 per cent., or protargol,  $\frac{1}{2}$  to 1 per cent., should be given daily by the physician, if possible.

It is always better to warn the patient that the administration of these capsules will color his urine to a greenish blue. As it has been my experience that this produces a profound impression, and in one case caused me to be rung out of bed at 2 A.M., to see a patient who thought he was dying because all his excretions had turned to indigo; on the other hand, this manifestation can be made suggestive to the impressionable patient. It takes about two to four hours for the drug to pass through the system and appear in the excretions, it being noticed first in the urine.

Prolonged administration of methylene blue may produce gastric disturbances,

but I have not found this to happen often except in those cases where an inferior drug is used.

The following cases are selected from a large number treated in the manner described:

Case 1.—Mr. A. W., aet. 21. Previous history, negative. Present history: Intercourse about eight days ago; first noticed burning on urination about two days ago, followed in twenty-fours by thick yellow discharge from meatus. Pain is so severe to-day that patient was unable to sleep, urinating every twenty to thirty minutes.

*Examination.* Discharge reveals numerous gonococci and streptococci.

*Diagnosis.* Acute gonorrhea.

*Treatment.* On account of the severe pain on urination it was impossible to treat this case actively at first. Prescribed the following as an alkaline diluent.

R Kali acetas,  
Tr. hyoscyam.....āā 3ii  
Syr. aurant cort.....3ss  
Aq.....q. s. 3ii  
M. Sig. 3i q. 4 h.

This I continued for three days with no other treatment. By this time the pain was relieved a great deal and I discontinued the medicine and prescribed capsules San-methyl, one every four hours, and began injections with 3 per cent. argyrol. I injected patient daily, using a 2-drachm syringe and holding the injection in the urethra for about five minutes by holding the meatus shut. The discharge diminished rapidly, and by the fifth day after starting this treatment was down to a thin watery discharge. I then discontinued the argyrol and substituted a 2-per-cent. tincture sulphocarbolate injection, continuing the capsules. Discharge ceased altogether by the tenth day, and patient, having successfully passed the "beer test," was discharged.

Case 2.—Mr. B. N., aet. 28. Previous history: Gonorrhea eight years ago. Present history: He had a discharge from urethra for past four weeks, which he had been treating himself by injecting some

patent injection. Discharge diminished gradually, but about two days ago, after a long bicycle ride, he noticed a severe pain in the posterior part of his urethra on urination. This has increased and is accompanied by frequent urination. Discharge is not profuse and is quite thin.

*Examination.* Discharge reveals small numbers of gonococci. Urine is acid and high-colored.

*Diagnosis.* Acute posterior urethritis, accompanied with an acute cystitis.

*Treatment.* Prescribed Helmitol gr. xv. *t. i. d.* This is an ammonium formaldehyde and a strong urinary antiseptic.

Irrigated bladder with saturated solution of boric acid.

Continued this treatment for a week, by which time the pain had disappeared and the urination was less frequent. I then substituted caps. San-methyl for the Helmitol, and 1-3000 permanganate for the boric acid. Irrigated patient daily, and gave him one capsule every four hours. Pain did not return and discharge gradually diminished. Increased the permanganate to 1-2000 by third day.

This patient remained under treatment for three weeks, by which time the urine was clear of shreds, discharge had ceased entirely and a smear taken from the posterior urethra was negative. Patient was then discharged and has had no recurrence since.

These two cases represent different stages of gonorrhea, the first an acute anterior and the second and acute posterior urethritis. In both the methylene blue was used after the acute symptoms had subsided, and I have found that it is more serviceable in these subacute stages. If used in the acute stage, when the pain is severe, it is apt to increase the irritation, and do more harm than good. In the subacute stages, however, its anti-gonorrhoeic properties are strong.

The following two cases represent the disease in more chronic stages, or in patients who experienced little or no pain from the start, and in which San-methyl

could be exhibited at once, without first relieving pain with other drugs.

Case 3.—Mr. J. K., artist, aet. 22. Previous history: Had severe attack of gonorrhea about three years ago, from which he recovered. Present history: About eight days ago had intercourse. First noticed discharge from meatus about three days ago, which became more profuse. Absolutely no pain on urinating. No chordee.

*Examination.* Discharge reveals gonococci under the microscope.

*Diagnosis.* Acute gonorrhea.

*Treatment.* Irrigated patient daily with 1-2,000 potassium permanganate solution. Prescribed the methylene blue in the capsules referred to in preceding cases. In about four to five days discharge diminished and became thinner. In ten days it was completely gone. In all this time the patient felt absolutely no pain. This was probably because it was a second attack. Patient was discharged on twelfth day after a negative microscopic examination.

Case 4.—Mr. W. C., aet. 28. Has had gonorrhea for past eight to nine months. Disease has passed from acute stage and has become chronic with only a morning discharge. Patient has had treatment at various times.

*Examination.* Discharge reveals gonococci in small numbers. Second glass of urine shows shreds. In passing sound a stricture was found in posterior portion of the canal.

*Diagnosis.* Chronic posterior urethritis.

*Treatment.* Passed sounds twice weekly. At first was only able to pass No. 16 F. Followed the sound with deep instillations of silver nitrate. Prescribed the methylene blue capsules—one every four hours.

Gradually dilated the stricture until at end of three weeks could pass No. 28 F. During this time I kept the urine constantly blue with the San-Methyl capsules. Patient began to improve by this time and at the expiration of five weeks the drop had disappeared. I decreased the dose of the capsules to two a day after the second week and discontinued them when the discharge disappeared.

Patient was discharged as cured at end of sixth week, but told to come back in three months to have his stricture dilated again.



UPON THE PRESENCE OF THE TYPHOID BACILLUS IN THE URINE AND SPUTUM.\*

By MARK W. RICHARDSON, M.D., Boston.

In the *Journal of Experimental Medicine* for 1898 and 1899 I published two articles: one upon the presence of the typhoid bacillus in the urine, and the other upon the use of urotropin as a remedy for this condition. Observations upon 103 cases of typhoid fever showed that typhoid bacilli were present in the urine of 22, or 21.35 per cent. of the cases.

A review of the literature since 1887 shows that thirty observers have made bacteriological investigations of the urine in 1,291 cases of typhoid fever. Of these, 278 gave positive results; a percentage of 21.5, which approximates remarkably closely to my own percentage of 21.35.

As to the use of urotropin—this drug has been used by eight observers in fifty-three cases. All the reports have been favorable except that of Gwyn, who found that in two cases of cystitis due to the typhoid bacillus the organisms persisted, though in much diminished numbers, in spite of a long-continued use of urotropin. Gwyn prefers irritation of the bladder with corrosive sublimate 1.50,000.

Very rarely the use of urotropin has been followed by painful micturition and hematuria. These symptoms have, however, ceased immediately upon the omission of the drug, and no permanent injury to the kidneys has resulted.

Our present knowledge of the subject may be summed up as follows:

1. Typhoid bacilli are present in the urines of about 21 per cent. of individuals afflicted with typhoid fever.

2. The bacilli, when present, are generally in pure culture, and their number is frequently enormous, many millions in each cubic centimeter of urine.

3. The invasion of the urine by the bacilli takes place in the later stages of the disease. Unless measures are taken to remove the organisms they persist frequently for weeks, occasionally for months, and rarely for years, and thus constitute (a) a danger to the patient himself (cystitis and possibly orchitis and epididymitis), and (b), what is much more important, a grave source of danger to the public health.

4. The necessity for the rigid disinfection and supervision of typhoid urines is apparent.

5. In urotropin we have a drug which will, in the vast majority of cases, remove the typhoid organisms from the urine, not only in the cases of simple bacilluria, but also in those which a cystitis has resulted. Very rarely an obstinate cystitis may require the use of vesical irrigations. Very infrequently a case will be seen in which the use of urotropin is followed by hematuria. In such cases the drug should be omitted and irrigation of the bladder instituted.

6. This subject in its relation to the public health is of the utmost importance. In my opinion it should be a fixed rule, and one rigorously enforced, that no typhoid convalescent be discharged as well until his urine has been proved permanently free from bacilli. In large hospitals, with their well-equipped laboratories, such supervision can be carried out with ease. Cases in private practice should be the care of the local boards of health. In this way only can we prevent a considerable percentage of our typhoid convalescents from becoming unsuspected foci for the further distribution of the disease.

As to the presence of the typhoid bacillus in the sputum, I was able in 1897 (*Journal of the Boston Society of Medical Sciences*, 1897, Nov. 16), to isolate this organism on three successive days from the sputum of a case of typhoid fever complicated with pneumonia. In thirteen cases with no pulmonary complications the results were negative.

\* Read at the Boston Medical Library, Dec. 15, 1902; reprinted from the *Boston Medical and Surgical Journal*, Feb. 5, 1903.

Since 1897 the subject has been investigated by a few observers only. Their results showed that the typhoid bacillus may be present in the sputum during typhoid fever, especially if there be a coincident bronchitis or pneumonia. The typhoid bacilli are almost invariably associated with other organisms, such as the pneumococcus or the influenza bacillus, and are to be regarded rather as secondary invaders than as the primary cause of the complication. The sputum in these cases is generally hemorrhagic, and may contain large numbers of bacilli for considerable lengths of time. Seven weeks is the longest period of persistence recorded. The subject needs much further study, but enough is known to show that in the typhoid sputum we have still another excretion which must be carefully disinfected.

Dr. F. C. Shattuck stated that for several years it has been his routine practice, alike in hospital and in private, to give his typhoid fever patients 8 to 11 grains of urotropin three times a day for two days in every week, until convalescence is completed. This obviates all danger from the urine and has never produced any untoward symptoms.

**TREATMENT OF GOUT.**—In an article on this subject, Dr. Alex. Haig, of London, the well-known authority, states: I may sum up, then, in a few words, the treatment of all uric acid arthritis by saying that in acute cases with fever the indication is to give a solvent, and that the best solvent is a salicylate either in the form of salicylate of soda or salicylic acid, or, perhaps, better than either, Aspirin, and to give this in sufficient quantity not less than one dram a day, and often more than this up to the ordinary doses given in acute rheumatism.—*The Practitioner*, July, 1903.

#### GONORRHEA.—

R Hydrarg. chlor. corros. .... gr. ii-iv  
Zinci sulpho-carbolat. .... gr. ii-x  
Acid. boric. .... 3 i  
Hydrogen peroxide ..... f3 i  
Aquae ..... q. s. ad f3 viij

M. Sig.: Use as injection. —WHITE.

**TYPHOID.**—George H. Highsmith (*St. Louis Med. Review*, August 15, 1903) writes of his treatment as follows:

It is very seldom necessary to give opium in any form after the first week. Every three or four days, whether there is diarrhea or not, I usually give a dose of castor oil, in which about five grains each of subnitrate of bismuth and bicarbonate of soda have been incorporated. Two or three drops of turpentine may be added to the castor oil. I think the large doses of turpentine recommended by some authors are harmful. If there is tympanitis with a dry tongue I prefer a prescription something like this:

R Calomel.  
Ipecac pulv.  
Opium pulv.  
Pilocarpin, mur. .... aa 1 gr.  
Ft. Chart. No. xx. Sig. Take one every hour.

This is always given in powder, dropped on the tongue and washed down with a little water. I never give medicine to a typhoid-fever patient in pill or capsule.

As to intestinal antisepsis I usually give a prescription something like this:

R Bis. subnit.  
Cret. prep.  
Acacia pulv. .... aa 3 iii  
Aq. pur. .... 3 ii  
Glycerin. .... 3 i

M. Sig. Shake the vial well and give a teaspoonful every six hours during the day.

An opiate in some form may be added to the dose when given, if necessary. Strychnin may be given at the same time if indicated. I prefer adding the opiate or strychnin to the dose when given. I prefer not to have mixtures containing powerful drugs prepared at the drug store. You can never be sure of the accuracy of dose, especially when measured in a teaspoon.

As to feeding: I think it is not only useless, but positively harmful, to give food of any kind during the first week. I never insist on feeding a typhoid-fever patient before the middle of the second week.

I regard milk as the ideal food in typhoid fever, especially buttermilk. Vegetable soups should be avoided, also tea and coffee, until convalescence is well under way. Fruits are contra-indicated also.

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## Editorial.

### THE MILK QUESTION.

Among the great strides, which have taken place in practical medicine during the past few years, the scientific regulation and control of the production and transportation of the milk supply in some of our larger cities find a prominent position. The close supervision of cow's milk—the only practical and rational substitute for mother's milk—from milking time until its consumption by the infant has solved in part the great problem of reducing infant mortality, more particularly during the heated term. This subject has occupied the attention of progressive pediatricists for a long time, and to-day, thanks to their efforts, we are in a position to procure milk of a very good quality at but a slight increase in price. In the *Archives of Pediatrics* for December, Drs. WM. H. PARK and L. EMMETT HOLT deal very exhaustively with the results of different kinds of pure and impure milk, in the feeding of infants in tenement houses and institutions of New York City. Their conclusions are exceedingly interesting and practical, albeit that some are at variance with what one would be led to expect from a theoretical consideration.

It appears to them that the term "milk bacteria" assumes a condition which in reality does not exist, many infants being able to take milk with 1,000,000 bacteria per c.c., without any harmful results; unless the number of bacteria amounts to millions, no harm comes from milk which is heated. Contrary to general opinion, the proportion of bottle-fed infants in tenement houses is very small, the large numbers appearing at the dispensaries giving a false impression; another surprise is found in the very limited use of proprietary foods among the tenement population.

During the cool weather, neither the health nor the mortality of the infants seemed to be affected by the kind of milk or its bacterial content, so that "artificial feeding in the tenements in winter would seem to be comparatively a simple problem." In summer, however, the amount of illness and the death-rate depend upon the character of the milk; those taking condensed and cheap store milk faring the worst, and those receiving breast-milk, pure bottled milk, and modified milk, doing the best.

The great difference between the results in summer and winter indicate that "heat is the primary factor, and bacteria and their products a secondary one, except when the contamination is extreme or pathogenic organisms are present." There can be no question of the great superiority over all other methods of feeding from central distributing stations; in this way the patient procures good, clean milk, properly prepared and modified, and a constant oversight of the child is established. The food is furnished in a way which "leaves the mother the least to do;" the dangers of overfeeding are avoided, and slight digestive disturbances—often the forerunners of a fatal ileo-colitis—may be corrected. Milk delivered in sealed bottles should be encouraged for artificial feeding, and none but the purest milk should be taken raw, especially in summer.



Intelligent care of the infant, its food, and its "feeding armamentarium" is most important in obtaining good results. It is recommended that mothers and those engaged in the care of infants be educated in the proper methods of feeding, not by printed circulars alone, which are "seldom read and soon thrown away," but by personal contact with properly qualified physicians and trained nurses. Most of the bottle-feeding in tenements at present is poorly done, so that the great advantage and superiority of breast-feeding still obtains. Finally, the "injurious effects of table-foods to infants under six years old, and of fruits to all infants and young children in cities, in hot weather, should be much more generally appreciated."

The milk question is one which is so far-reaching in its possibilities that the attention of the profession cannot be called too frequently to the study of its different aspects. The future growth and development of the individual is often decided by its nutrition during the first two years of life, and it behooves us as physicians to do all in our power to give our little patients a good start. —J. S.

CATARRH OF GALL-BLADDER is the subject of our leading article, by our esteemed old-time contributor, Dr. J. M. G. CARTER. It is interesting and practicable, and a fitting companion piece to the "Stomach-ache" paper by PAUL COHNHEIM, in our November issue.

REST, by Dr. WAINWRIGHT, felicitously reviews the means to aid drugs in the treatment of all patients that clamor for relief of "all the ills that flesh is heir to."

METHYLENE BLUE is a drug of such varied value, as amply recognized in our columns for years past, that Dr. Clark's report in this issue, direct and instructive, will be read with interest. The reader will do well, in this connection, to refer back to our November, 1902, issue, and peruse Dr. FLOECKINGER's complete review of Methylene Blue literature.

## THERAPEUTIC NOTES.

The local application of ethyl chloride to the mastoid region has been recommended for tinnitus aurium.

Ringworm of the body is sometimes cured very rapidly by the application of chloroform.

Anthrabin in collodion is a good substitute for chrysarobin in the treatment of psoriasis.

In vertiginous epilepsy Bourneville and Ambard have obtained satisfactory results from the use of bromide of camphor.

For nasal catarrh, associated with abscesses, crusts, and fetor, a fifty-per-cent. watery solution of ichthyol will be found very useful in reducing swelling, diminishing odor, and relieving pain.

In doses of  $\frac{1}{32}$  grain, apomorphine is highly spoken of as a hypnotic.

In gonorrhea of the uterus Salermo uses a 12:1000 solution of picric acid, injecting 5 c.c. twice weekly and tamponing the vagina with gauze.

A ten-per-cent. ointment of pyrogallol acid is recommended by Wittmaack for lupus vulgaris.

Cerolin, a fatty principle of yeast, was used by Roos and Hinsberg with good effect in furunculosis, acne, and constipation. The dose is one to three grains three times daily.

Eustace Smith has obtained several cures of chorea in children from the use of large doses of ergot—one drachm of the fluid extract diluted, every three or four hours.

In acne indurata the application of the X-ray is frequently successful where other measures fail.

## Current Literature.

**LACK OF APPETITE AND FERMENTATION.**—Hemmeter's favorite formula in cases of subacidity is as follows :

R Strychnin sulphate.....  $\frac{1}{2}$  gr.  
Hydrochloric acid, dilute.... 4 fl. dr.  
Extract condurango, fluid....  $1\frac{1}{2}$  fl. oz.  
Elixir gentian ..... q. s. ad 6 fl. oz.

Mix, and direct  $\frac{1}{2}$  fluid ounce in two ounces water, half an hour before meals.

Or,

R Tincture nux vomica.....  $2\frac{1}{2}$  fl. dr.  
Elixir calisaya ..... 2 fl. oz.  
Elixir gentian..... q. s. ad 6 fl. oz.

Mix, and direct  $\frac{1}{2}$  fluid ounce three times daily, half an hour before meals.

When there are evidences of anemia with the subacidity, the following acts satisfactorily :

R Quinin sulphate..... 18 gr.  
Strychnin sulphate .....  $\frac{1}{2}$  gr.  
Iron sulphate..... 12 gr.  
Arsenious acid.....  $\frac{1}{8}$  gr.

Mix, and make 12 pills. Direct one pill three times daily. To be prepared fresh and without coating.

Boas uses the following powder for anorexia :

R Strychnin extract.....  $\frac{2}{8}$  gr.  
Bismuth carbonate ..... 8 gr.

Mix, and make 20 powders. Direct one powder three times daily.

Menche has warmly recommended resorcin resublimite, and it undeniably improves the appetite in cases of incipient gastric fermentation. It has also a slight sedative action. The following is Menche's formula :

R Resorcin resublimite.....  $30\frac{1}{2}$  gr.  
Muriatic acid.....  $15\frac{4}{10}$  gr.

(Or, if it be indicated in place of muriatic acid, one may order sodium bicarbonate, 120 grains.)

Distilled water..... 6 fl. oz.  
Simple syrup..... 3 fl. dr.

Mix, and direct  $\frac{1}{2}$  ounce every two hours.

The following formulas are recommended by Ewald for anorexia with fermentation :

R Tincture nux vomica..... 6 fl. dr.  
Resorcin resublimite..... 81 gr.  
Tincture amar..... 3 fl. dr.

Mix, and direct 10 to 15 drops every two hours.

R Extract condurango, fluid....  $4\frac{1}{2}$  fl. dr.  
Resorcin resublimite..... 1 dr.

Mix, and direct 30 drops four times a day.

Creosote is a remedy of doubtful effec-

acy in my experience, as it rarely benefits digestion, except in tuberculous patients. Wegele says that it will help if it is tolerated and causes no severe dyspeptic symptoms, but the latter is just what it will do in more than one-half the cases. I have my doubts whether it will promote peristalsis, as is asserted by Klemperer, until enough is given to act as an irritant. Even when it is tolerated by the stomach, the repeated penetrating eructations are very annoying to the patients.—*Medical World*, September, 1903.

**ALCOHOLIC TOXEMIA AND ITS TREATMENT.**—Thomas D. Crothers (*Med. News*, July 25, 1903) says :

The usual custom is to take away the alcohol gradually, with the view of avoiding a shock, and then to give the patient narcotics for the purpose of keeping him asleep. I do not believe there is any basis for these theories. The removal of the alcohol is the first thing to be attended to. It should be stopped entirely and at once. There is no shock caused by the taking away of other poisons. Why should we apprehend it in the case of alcohol? What danger there is arises from the fact that by stopping the production of alcoholic toxins you may give more room for the play of other toxic agents. These, however, must be dealt with as they arise : the first thing is to remove the alcohol, which is the main cause of the general toxemia. The toxins generally may be expelled from the system by elimination. With a view to this the bowels should be opened by means of salines, and baths and other means used to stimulate the pores of the skin. These two things are absolutely essential—sharp purgation and sweating. The best results follow from prolonged and continuous elimination by this double process.

As to narcotics, I make a point of not giving any drugs of this class until the toxins have been expelled, and neither do I give food until the acute stage has been passed.

When, however, the patient is convalescent, attacks of insomnia may occur, and to relieve these, special treatment, including some of the milder sedatives, may be necessary. In this connection I have found some of the coal-tar products useful, and good results have been obtained from chloretone. This is a tertiary butylic alcohol of the anesthetic group, and appears to have very marked value where other drugs are impotent. In the insomnia which follows the withdrawal of opium as well as alcohol it works well, without producing any of the unpleasant after-effects which so commonly result from the use of other narcotics. I have given chloretone freely, and have not noticed any cumulative action. Its hypnotic effect becomes apparent within half an hour or more. In the so-called delirium tremens, after the bowels have been freely moved and free perspiration established, and the delirium has subsided, it may be given in large doses of fifteen or twenty grains. I may add that it is best given at night. The anesthetic action of the drug is favored by external circumstances. Other narcotics may be given during the day, but chloretone is more effective and pleasing as a night-dose. For the neuritis and lumbago, so common in alcoholic cases, it is especially indicated, giving in many cases almost absolute relief. Its anesthetic effects seem very general. I have not noticed any resultant trouble in the stomach or derangement of the processes of nutrition. Prof. Wilcox, who has written an exhaustive article on the subject, suggests that, as a result of the action of the drug, the dendritic filaments lose touch of one another, and the protoplasmic processes are thrown out of contact with the motor cells—sleep, in other words, being produced by cell retraction. My personal experience is that, after the drug has been administered, the patient's excitement and irritation quickly subside—not always to the point of sleep or unconsciousness, but at all events to a condition of serenity and quiet, dreamy relaxation. So far I have

not heard of any bad effects following its use, and therefore I would be disposed to place it among the safest as well as most reliable of the anesthetics and hypnotics on the market.

The after-treatment should continue—the salines and baths, the latter daily, and with this the bitter tonics, of which cinchona is the best. Arsenic is a valuable remedy, and the same may be said of some forms of phosphoric acid. For the alcoholic craze strong infusions of quassia will be found effective. All other remedies should be subordinate to means and measures which act on the skin and encourage elimination. Often this general treatment should be continued for a long time.

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AORTIC INSUFFICIENCY.—THOS. R. ROBINSON (*The Med. Times*, April, 1903) writes as follows:

While aortic insufficiency continues compensated, the use of drugs having direct action upon the heart is nearly always injudicious; our efforts should be directed toward rendering its task less difficult by teaching our patient how to avoid those influences which make its burdens harder to bear. These efforts should take two directions. Protect the heart from a continuation or recurrence of those injuries that have determined the original disordered action, and guard against conditions that throw additional stress upon it. Recurrent attacks of rheumatism or gout should be averted by timely hygienic measures. Undue cardiac excitement may be averted by avoidance of prolonged and violent physical effort. Systematic athletic exercise under judicious direction is beneficial, but the active exertion of football, baseball, tennis, rowing, running, lacrosse should be prohibited. The hod-carrier, the stevedore, the porter must find other occupations. The man of leisure may prolong his life in comparative comfort for many years. The laborer who must work without reference to his physical defects is often hurried along the road



to death. The rules do not always hold, however; we often see steady progress in those whose circumstances permit the most zealous care, and are astonished to see exhausting work performed by men who have for years had aortic insufficiency with corresponding cardiac hypertrophy. The danger of sudden death from syncope should never be forgotten, and all precaution should be taken to protect the heart from the sudden over-distention that is the cause of it. Violent passion, violent effort, violent emotions have often precipitated the fatal seizure. As the cardiac hypertrophy reaches that degree where relative insufficiency of the mitral valve is induced, or when the hypertrophied muscle slowly degenerates and yields to the ever-increasing eccentric pressure within the ventricle, the dangers of passive venous hyperemia are added to those already present, and our remedial efforts must be directed against the new order of things. Agents that depress the heart's energy must now be carefully avoided, and those that increase its power resorted to. Digitalis, strophanthus, convallaria, caffeine, and the series of so-called heart tonics should be employed. Unhappily, one cannot often obtain the favorable results so frequently seen to follow the use of these agents in cardiac dilatation and degeneration following mitral insufficiency or the changes of advanced life. The combined valvular defects render these offices more difficult. They should be employed, however, for often their good effects may be observed. After mitral insufficiency and excessive, uncompensated dilatation have become established, the general treatment practically becomes that of ordinary, uncompensated mitral regurgitation, but with more incessant watchfulness.

#### GASTRIC ULCER.—

R Argenti nitratis ..... gr. v  
 Tr. opii ..... fʒ iss  
 Aq. anisi ..... āā fʒ iiss

M. Sig.: A teaspoonful three times a day.

—THOMPSON.

R Liq. potass. arsenitis ..... fʒ ss

Sig.: One drop, repeated as required, to relieve the pain and vomiting. —BARTHOLOW.

THE TREATMENT OF ACUTE AND SUBACUTE ANTERIOR GONORRHEA.—H. G. Klotz, New York, claims that the mucous membranes show much less irritation, subjective and objective, when solutions of mercury bichloride, silver nitrate, potassium permanganate were allowed to flow through the urethra in a retrograde direction, that is from the bulbus to the meatus, than when administered in the contrary direction from the meatus to the bulbus. He describes fully the method employed and discusses the question of when a gonorrhea may be considered cured. He uses silver nitrate in the more stubborn cases, and usually albugin in the more tractable ones. — *St. Louis Medical Review*.

AN ADJUNCT TO UTERINE IRRIGATION IN PUERPERAL FEVER.—D. Wilson (*Lancet*, October 31, 1903) urges against the usual practice of completing the uterine douche with plain boiled water, a measure directed against the ability of the post partum uterine surface to rapidly absorb any watery solution coming in contact with it. The author believes that the most imminent danger does not depend on the antiseptic used but on the fact that watery solutions are used and the uterus is left wet. This water is thought to act in two ways. (1) By dissolving the toxins and so promoting their rapid absorption into the circulation; and (2) by assisting the growth of the micro-organisms. The rise of temperature within an hour or two after washing out the septic uterus, and the other symptoms of increased toxemia, can be prevented by the removal of all trace of water from the uterus after the douche.

The method suggested is, after expressing as much of the douche solution as can be got rid of in that way, to inject into the cavity of the uterus one ounce of glycerine containing three per cent. of formalin. This solution is quite innocuous and unirritating, and in addition to its powerful antiseptic action it removes all water from the uterus and so prevents absorption of the douche solution and any soluble toxins contained in it.

Cases are given in detail in which the rise of temperature and increased toxemia following the usual method of irrigation disappeared entirely when the douches were followed by glycerine and formalin injection as described.—*Yale Medical Journal*.

(The above would appear to be a strong argument in favor of using the well-known vaginal suppositories, in which a variety of appropriate drugs are suspended in a vehicle of pure gelatine and boroglyceride solution, in place of irrigation.)

DIET AND DRUGS IN NEPHRITIS.—The *Medical Record* abstracts from an article by Dr. William S. Gordon, in the *Boston Medical and Surgical Journal*, Nov. 26, 1903, as follows: The health of the kidney depends, in a great measure, upon the normal metabolic and depurative work of the liver, upon the state of the genito-urinary tract below the opening of the ureter, upon the cutaneous circulation and vasomotor influences, and upon the absence of pressure and traumatism. An exclusive milk diet may do harm by being abused and furnishing too much urea, by causing constipation and absorption of toxins, by failing to supply the blood with sufficient nourishment, or by setting up lactic or butyric fermentation. A routine diet for all cases is unscientific and should be avoided. There are a large number of cases in which a diet composed wholly or largely of milk is beneficial. Abstinence from alcohol, tea, coffee and cocoa, and a partial or complete reduction of sweets and acids, with the use of alkaline waters, are means promptly beneficial in acute cases and in the first stages of the chronic cases. Fowl, game, fish and eggs should not be indulged in to excess because butcher's meat has been prohibited. An efficient cholagogue given before the diuretic, or in conjunction with it, is a powerful auxiliary in the treatment. Diaphoretics are very useful in cases of acute nephritis with high pulse tension and diminished flow of urine, nitroglycerin is in-

valuable. In chronic nephritis iron is most serviceable. Chloral hydrate, the bromides, and morphine are useful. Taken all in all, strychnine is the best remedy we have for weakness and exhaustion of the nervous system, while its combination with the hypophosphites will sometimes give results better than can be obtained from either drug alone.

GUAIACOL CARBONATE IN THE TREATMENT OF MEASLES. (The *Medical Record* from *The Lancet*, Nov. 21, 1903.)—This remedy is extolled by D. M. Paton, who finds the remedy a specific in bronchial catarrh with fever. The latter is reduced promptly. The remedy has no effect on the measles itself. Bismuth added to the remedy will relieve any tendency to vomit; the same holds true of Dover's powder with reference to diarrhea. The treatment is begun when the diagnosis is made, and continued in full doses till the temperature has fallen to normal, a reduced quantity being given for two days longer to make sure of the result. The dose is calculated at one drachm *per diem* in powders of ten grains every three hours for adults, and children in proportion. The powder is readily taken by children, and all the more so if an equal amount of powdered sugar is added. No unfavorable symptoms have ever been seen during its administration which could in the slightest degree be attributed to the treatment; in no case has it failed to abort the bronchial catarrh, and there have been no deaths.

CHLORIDE OF LIME IN PUERPERAL INFECTION.—A. Ethier reports the successful use of this substance in a uterine douche in a case of puerperal infection. One hundred grams of the chloride of lime were dissolved in 1,200 grams of boiled water, and filtered. A glassful of the fluid was mixed in nine glassfuls of hot boiled water, and injected very slowly. He has also used it in cases of simple metritis with a viscid glairy discharge. It liquefies the viscosities, is non-irritating, causes no pain, and

is not poisonous like bichloride. In cases of ulcerated and inoperable neoplasms of the vagina, with fetid discharge, it causes rapid deodorization. It must not be used in a vagina which has recently been treated by the carbide of calcium without carefully removing all traces of this salt, otherwise the two substances will ignite and explode. Calcium chloride is also indicated in suppurating wounds with no tendency to heal, and in abscess of the breast.—*La Revue Médicale du Canada*, November 12, 1903.—*Medical Record*.

**SUGGESTIVE THERAPEUTICS.**—Dr. J. M. Keniston, M.D., concludes a comprehensive review of recent competent contributions in representative medical journals, the whole appearing in the *Yale Medical Journal*, Nov. and Dec., 1903, as follows:

**Conclusions.**—To-day few doubt the reality of hypnotism, or that hypnotic sleep may be produced by all stimuli capable of causing fatigue, whether this is caused by stimulation of sight, hearing, taste, smell or touch. Neither can we doubt that some danger may occur from the injudicious, unskillful, or unauthorized use of hypnotism, nor that all public exhibitions should be prohibited. While some eminent physicians and psychologists have pronounced against its use, the large—very large—majority commend its proper use, chiefly in the way of suggestion, after the Nancy School, and using, if at all, only the lighter degrees of hypnosis, as a rule, and using *verbal suggestion*, sometimes supplemented by a gentle closure of, and pressure on, the eyelids, or a few passes, or both.

Suggestion has an increasingly wide field of application, as it becomes better understood, not only in the neuroses and psychoses—hysteria, neuralgia, and drug habits—etc., etc., but in general physical diseases, especially of a functional nature, although many concomitant and often distressing symptoms of organic diseases have been benefited, and some ardent en-

thusiasts believe that even tissue lesions may be cured. Contrary to Bernheim and a few others, the writer believes that suggestion, often practiced unconsciously, has a great sphere of usefulness in psychiatry, not alone in controlling excitement, remedying bad habits, relieving pain, and causing sleep, but in combating fixed ideas, and in some cases dispelling hallucinations and delusions.

In closing I will mention briefly a few practical but essential points to be kept in mind:

1. The hypnotizer (or suggestor) should be absolutely disinterested, and eager to help his patient.

2. He should obtain all possible knowledge of both the mental and physical condition of the patient, and have a clear idea of just what he expects.

3. In making his suggestions he must absolutely concentrate his attention upon his object, excluding all outside impressions.

4. He should be at the time in good physical condition—fresh, calm, energetic, even intense, but deliberate.

5. He should simply, but clearly, explain to his patient what he is about to do, and why. Suggestions should be clear, precise, simple.

6. He should not expect to succeed at the first seance in every case, but should persist for several sessions, remembering that there are many grades of susceptibility; persistence and patience, and again persistence, are the requisites of success, if success is to be had.

7. Some patients are inaccessible to suggestion.

8. It is essential to have a third party at all seances, especially if the subjects are women.

9. The patient should, if possible, endeavor to co-operate with the hypnotizer—should assume a receptive attitude, and endeavor to concentrate his or her attention absolutely on the process. As, in our belief, verbal suggestions are preferable, it is better to close the eyes, save where written words are used instead of spoken.

Finally, the whole subject, even to-day, has not received sufficient study, and as Landon Carter Gray said, "The truly scientific attitude toward it should be neither one of *skepticism* nor *credulity*, but simply of *expectancy*."



## Book Notices.

**Compend of Gynecology.** By WILLIAM H. WELLS, M.D., Chief of the Gynecological Staff of the Mount Sinai Hospital, Philadelphia, etc. Third Revised and Enlarged Edition, with 145 illustrations. 293 pages. Cloth, 80 cents; interleaved, \$1.00. Philadelphia: P. Blakiston's Sons & Co., 1012 Walnut Street, 1903.

The first edition of this compend, published in 1896, has served us frequently and well; we are pleased to replace it with the present revised copy. Detailed references in describing a volume of this kind, necessarily comprehensive though brief, and with excellent authority to back it, would be useless. It will suffice to say that the previously corrected edition "has been thoroughly revised; a section on the general therapeutics of gynecology inserted," other additions and re-arrangements made, and the book is thus perfected.

It goes without saying that a Compend of Gynecology is indispensable, and this one is cheap and thoroughly satisfactory.

**The Neuroses of the Genito-Urinary System in the male, with Sterility and Impotence.** By Dr. R. ULTZMANN, Professor of Genito-Urinary Diseases in the University of Vienna. Second Edition. Revised, with notes and a supplementary article on Nervous Impotence, by the translator, GARDNER W. ALLEN, M.D., Surgeon in the Genito-Urinary Department of the Boston Dispensary; Instructor in Genito-Urinary Surgery in Tuft's Medical College. Illustrated. Pages 198. 12mo. Price, extra cloth, \$1.00, net, delivered. Philadelphia: F. A. Davis Company, publishers, 1914-16 Cherry Street.

The first edition of this valuable treatise, published in 1889, has been long esteemed as a complete and authoritative exposition of the subject. It was so comprehensive that in this revision little had to be added to bring the whole subject up to date; but a supplementary article on the nervous form of impotence is important, and other minor additions incorporate whatever knowledge has accumulated in late years. As the translator presumed in his intro-

ductory note, this little work throws full light "on the management of this very difficult and refractory class of cases."

**A Non-Surgical Treatise in Diseases of the Prostate Gland and Adnexa.** By GEORGE WHITFIELD OVERALL, A.B., M.D., formerly Professor of Physiology in the Memphis Medical College. Illustrated. Pages 207. 12mo. Chicago: Rowe Publishing Co., 1312-34 East Washington Street, 1903.

The author believes that "damage once done to the prostate by the knife is irreparable;" he has practiced for over twenty-five years, and most of that time—discarding the antiquated treatment with the knife, etc.,—he has employed local and constitutional medication, electrolysis and cataphoresis. Some of the matter making up this treatise has appeared in Western medical journals during the past twenty years; but it has evidently been reconstructed and amplified, and now makes a very respectable volume, profusely and well-illustrated, interesting and instructive. One feature of the work, which is noticeable and exceptional, is that the Diagnosis in each chapter is followed by Treatment—actual specific directions for treatment, and not only a general review of all that has been recommended. This book is well worthy of careful perusal, and replete with utilizable facts and suggestions.

**Plain Hints for Busy Mothers.** By MARIANNA WHEELER, Superintendent of the Babies' Hospital, New York, since 1891, etc. Illustrated by F. M. MILLER. New York: E. B. Treat & Co., 1903.

A very practical and interesting booklet, intended to educate mothers in all that relates to taking care of and bringing up their children, from infancy up. The chapter headings show the scope: The Bath, Dressing the Baby, Care of Eyes, Nose and Mouth, Clothing, Fresh Air, Food, Emergencies, etc. The text is plain, understandable English. Physicians can no doubt earn the gratitude of many mothers by placing this booklet in their hands.

## ORGANIC IRON MEDICATION IN SECONDARY ANEMIAS.\*

### A CLINICAL AND HEMATOLOGICAL STUDY.

By LINO S. CHIBAS, M.D.,

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A great deal has been written in recent years of the various new organic iron compounds in the treatment of anemia, and our only excuse for the presentation of this report is that every new series of clinical observations, made with due conservatism and accurately recorded, is of value in confirming or disproving some fact or theory in medicine.

The problem of treating secondary anemias is an interesting one. In each case there is, in the first place, the primary factor, be it loss of blood through hemorrhage, spontaneous or traumatic; or be it the lowering of the functional activity of the blood-forming organs wrought by disease somewhere in the body, or by the action of toxins; or the direct destruction of the red cells and their hemoglobin in the circulating blood by some more violent toxic agency.

The first question, therefore, is how to remove the primary factor, or, at least, how to arrest its influence on the state of the blood. The second is, how to improve the state of the blood, so as to give it a new lease of life by increasing the amount of hemoglobin—that prime agent of oxygen exchange—and the number of red cells, the carriers of this agent.

In each individual case of secondary anemia there are different obstacles to be overcome as regards the primary factor, and therefore the treatment of the primary disease varies; but the therapy of the secondary condition is alike in all cases. Iron and its assistant, manganese, are the specifics to which we must have recourse—of that there has long since been no

doubt—but the form of iron that should be used for this purpose is another question.

The problem as to the exact site and mode of absorption of iron which is administered therapeutically has occupied pharmacologists for a number of years, and a great deal has been written on the subject, and yet, there is still no agreement even as regards some of the essential points of this question. Is iron absorbed at all in the inorganic state? If so, in what form and in what quantities? What form of iron is most readily absorbed? How does iron act if it is not absorbed, or if only infinitesimal amounts, totally inadequate for the needs of the body, enter the plasma and are taken up by the molecules of hemoglobin? All these questions have been discussed and rediscussed, but as yet, as Hammarsten<sup>1</sup> says: "The action of the iron salts is obscure."

In a clinical article we are not called upon to go into details in discussing the various phases of the question as to the absorption and mode of action of the iron salts, but a few words may be said to show the present status of the subject.

Whether iron compounds of the inorganic group are absorbed at all, is a question of subsidiary interest in the present inquiry. There are two diametrically opposite views on this question. Bunge and his pupils<sup>2</sup> say that inorganic iron salts are not absorbed in any amount, however small, and that Bland's pills and similar preparations act only by combining with the hydrogen sulphide and the alkaline sulphides of the intestine, thus preventing the decomposition of the organic compounds of iron existing in our food, especially in vegetables, and so permitting the absorption of these compounds into the blood. The opposite view is held by Quincke<sup>3</sup> and others, but the balance of evidence is in favor of Bunge's hypothesis.<sup>4</sup> The well-known fact that enormous doses of iron are required to produce appreciable effects in chlorosis supports this

\* Reprint from the *International Journal of Surgery*, June, 1903.

theory. Thus, if a woman takes six grains of reduced iron three times a day (eighteen grains daily), it will take weeks to restore her to the normal condition if her hemoglobin has fallen to 50 per cent. And yet, the entire amount of iron in the blood of a normal woman of average weight is only thirty grains, so that if the inorganic iron were absorbed, as some observers claim, a few days would suffice to restore the balance of hemoglobin and red cells.

On the other hand, organic iron compounds, especially such as are composed of iron with a proteid substance that resembles as closely as possible the proteids of the food as they occur in the intestine (*e. g.*, peptones), are undoubtedly absorbed into the blood in sufficient amounts to produce a comparatively speedy therapeutic effect in anemia, without injuring, as the inorganic compounds often do, the epithelial covering of the stomach and intestine, and thus causing gastro-intestinal symptoms summarized under the two general headings of dyspepsia and constipation.

It is these advantages that led to the general adoption of the iron peptonates, albuminates, etc., as the remedies to be preferred in the treatment of anemia. In this report we deal with one of these preparations, that known as pepto-mangan (Gude), in which iron and manganese exist in the form of peptonates. Gude's pepto-mangan has been used for a long time at the Columbus Hospital as a matter of routine in all anemic patients during convalescence from prolonged illness or from operations. The satisfactory results which have been obtained with this preparation have been noted, in a general way, by the visiting staff as well as by the house physicians, but until now we had no study of the exact results, as attested by the examination of the blood before and after the initiation of the treatment.

In order to determine more accurately what could be expected of pepto-mangan

in secondary anemias, as they occur in a general hospital, we studied a number of cases in the medical, surgical and gynecological wards. Of these a majority were in the services of Drs. Ramon Guiteras and Egbert H. Grandin, visiting surgeon and visiting gynecologist to the hospital, and take this opportunity to acknowledge their courtesy in permitting us to pursue this work.

About forty cases were studied from October 1, 1902, to March 1, 1903, in as thorough manner as possible, with a view of determining the action of the preparation to be tested. Unfortunately, for reasons beyond our control, a great many of these patients left the hospital, believing themselves sufficiently improved, without giving us time to try the remedy for a sufficient period to obtain definite results. We present, however, twelve cases in which the medication was continued for three or more weeks, usually for about a month in each instance. In each of these cases blood-counts were made before beginning the treatment, as well as after it had been discontinued. The cases are given below, simply as they appeared in notes, and they were not selected particularly on account of the results noted, but merely because they were the cases studied more completely than the rest.

#### REPORT OF CASES.

Case 1.—Mrs. R. F., Italian, 42 years of age, was admitted to the hospital on December 4. Diagnosis, ovarian cyst. Symptoms of secondary anemia. She was operated upon December the 5th, and the uterus was removed through the abdominal incision, as it was found to be the seat of a fibroid tumor, which had degenerated into sarcoma. She was discharged cured on January 10, 1903. During her convalescence she took one tablespoonful of pepto-mangan (Gude) three times daily. The examination of the blood showed the following findings:

December 4, hemoglobin 50 per cent., reds 3,350,000, whites 15,000. December 18, after hysterectomy, hemoglobin 39



per cent., reds 2,300,000, whites 16,000. January 10, hemoglobin 70 per cent., reds 4,250,000, whites 7,800.

The patient left the hospital in an excellent condition, showing no signs of anemia or debility.

Case 2.—A. P., Italian, 25 years old, admitted November 17, with stricture of the urethra and signs of marked anemia. November 24, perineal section and internal urethrotomy for stricture. There was considerable hemorrhage during and for a few days after the operation.

Examination of blood: December 12, eighteen days after operation, hemoglobin 68 per cent., reds 3,700,000, whites 10,429. January 4, 1903, twenty-eight days after beginning the use of pepto-mangan, hemoglobin 95 per cent., reds 4,800,000, whites 8,400.

Pepto-mangan was given in doses of one tablespoonful three times daily from December 13 to January 10. The patient was discharged cured on January 10, in good general condition.

Case 3.—M. S., Italian, 25 years old, admitted October 14. The diagnosis was perinephritic abscess and tuberculous knee-joint, and the patient showed pallor of the skin and mucous membranes. He was operated upon by lumbar incision for perinephritic abscess on October 24, and his knee-joint was excised Dec. 18.

Examination of blood: December 13, 1902, three weeks after first operation, hemoglobin 70 per cent., reds 3,104,000, whites 5,888. December 20, 1902, two days after excision of joint, hemoglobin 70 per cent., reds 2,750,000, whites 24,000. Jan. 10, when discharged, hemoglobin 85 per cent., reds 4,640,000, whites 5,150.

This patient was given pepto-mangan for three weeks from December 21 to January 10. He was discharged improved in general health. The anemia was very marked on December 20, after the second operation, and the increase in the blood-cells and hemoglobin was very satisfactory for a case of this severity after three weeks' treatment.

Case 4.—Ida M., 5 years old, Italian parents, born in the United States, was admitted November 30, 1902, suffering from typhoid fever. December 12, after the convalescence had set in, the child was extremely anemic-looking, with pale skin and pale, bluish-red mucous membranes. Pepto-mangan was ordered, a teaspoonful three times daily, on December 12. Eight days later the first blood examination was made, two weeks later, the second. The findings of the pathologist were as follows:

December 20, hemoglobin 75 per cent., reds 4,720,000, whites, 30,000. January 8, hemoglobin 85 per cent., reds 4,960,000, whites, 9,200. The patient was discharged cured on January 8.

Case 5.—Cesare C., aged 25 years, single. Had been operated upon one year ago in South America for vesical calculus and urethral stricture. Was admitted December 3, 1902, complaining of inability to urinate and continuous dribbling of urine through a suprapubic fistula. December 13, perineal section without a guide and internal urethrotomy were performed. The patient was weak and anemic after the operation, so pepto-mangan, a tablespoonful three times daily, was prescribed on February 5, 1903. He made a good recovery from the perineal operation, but the suprapubic fistula persisted. After twenty-two days' treatment with pepto-mangan he was discharged improved.

Examination of blood: February 6, 1903, hemoglobin 80 per cent., reds 3,878,000, whites 4,250. February 28, 1903, hemoglobin 85 per cent., reds 4,516,000, whites 4,600.

Case 6.—M. C., aged 44 years, widower, has had urethritis four times. On admission he gave a history of having suffered from frequent and painful micturition for fifteen months. An examination showed a chronic urethral discharge, a urethral stricture, 12 F. at about 6½ inches from the meatus, and a tumor in the right umbilical region simulating a very

large kidney. The prostate was much enlarged and very tender. The urine was of a specific gravity of 1,020, acid in reaction, contained no sugar and no albumen, but numerous pus-cells. In addition to treatment by irrigations and by dilatation of his stricture, he received pepto-mangan, a tablespoonful three times daily, from February 4 to February 28, to combat a marked anemia.

Examination of the blood : February 5, hemoglobin 45 per cent., reds 2,149,000, whites 9,760. February 28, hemoglobin 55 per cent., reds 2,460,000, whites 6,890.

The patient improved as regards his urinary symptoms, but his anemia did not show much amelioration after twenty-three days of iron therapy. At the time of writing he was to be prepared for a second operation, an exploratory nephrotomy for his renal tumor.

Case 7.—A. B., Italian, aged 58 years, married, was admitted to the hospital on November 24, 1902, complaining of symptoms of enlarged prostate, which had been giving trouble for six months. He had lost considerable flesh and strength and looked very anemic. He was operated upon December 27. His convalescence progressed satisfactory as regards his urinary symptoms, but the anemia persisted, and on January 14 he was put on a tablespoonful of pepto-mangan three times daily. After twenty-five days of this treatment he was discharged somewhat improved as regards the anemia. The report of the two blood examinations before and after the use of pepto-mangan was as follows :

January 15, 1903, hemoglobin 55 per cent., reds 2,940,000, whites 8,300. February 9, 1903, hemoglobin 65 per cent., reds 3,110,000, whites 8,100.

Case 8.—A. D., 8 years old, schoolgirl, on admission to the hospital, September 22, 1902, complained chiefly of abdominal pain, general weakness, and enlargement of the abdomen. On September 24 the abdomen was opened, and the peritoneal

cavity found to contain a large number of tuberculous foci on the peritoneum and a considerable amount of serous fluid. The diagnosis of tuberculous peritonitis was made.

On January 27, 1903, the abdomen was again found full of fluid, and was opened for the second time. On January 28, the patient was given pepto-mangan, two teaspoonfuls three times daily, for twenty-nine days, at the end of which time she was discharged. The anemia had not improved. The reports of the blood examinations were as follows :

January 29, 1903, hemoglobin 75 per cent., reds 3,920,000, whites 10,000. February 27, 1903, hemoglobin 75 per cent., reds 3,890,000, whites 7,200.

Case 9.—G. P., Italian, 28 years old, was admitted to the hospital on January 13, 1903. For the last four months he had noticed a swelling of the left testicle. He had his scrotum tapped ten days before admission, and about five ounces of a clear fluid had been withdrawn. An examination showed a pyriform swelling about eight times larger than the normal testicle, with an apex above the external ring. Its upper part was hard, without fluctuation, dull on percussion, no impulse on coughing, and non-translucent. Its lower part fluctuated and was translucent. On January 19, 1903, the testicle was removed, the diagnosis of sarcoma of the testis being afterwards confirmed by microscopical examination. On February 1, the patient was given pepto-mangan in doses of a tablespoonful three times daily, this medication was continued until February 28, when he was discharged with a well-healed wound and improvement of anemia. The reports of the blood examinations were as follows :

February 5, 1903, hemoglobin 65 per cent., reds 2,362,000, whites 5,900. February 28, 1903, hemoglobin 70 per cent., reds 3,800,000, whites 7,000.

Case 10.—L. M., born in the United States, aged 25 years, was admitted to the hospital January 3, 1903. She had

been married four years, had had one child and one miscarriage. No venereal history. One month before admission she was exposed to cold during menstruation, and the flow ceased. One week before admission she began to flow steadily and still continued to do so at her entrance to the hospital. She has had severe pelvic pains for three weeks. The uterus was found retroflexed, and a large doughy mass was found on the left side posteriorly. On January 9, 1903, she was operated upon by posterior vaginal section. A suppurating hematocele, originating from a ruptured extra-uterine pregnancy, was found on the left broad ligament. She was given pepto-mangan in doses of a tablespoonful, three times daily, from January 10, 1903, to February 9, 1903. The patient was discharged cured on February 9. The reports of the blood examinations were as follows:

January 24, hemoglobin 65 per cent., reds 3,150,000, whites 9,200. February 9, hemoglobin 75 per cent., reds 4,318,000, whites 6,100.

Case 11.—Mrs. L. G., Italian, 23 years of age, married six years, III para, last child three years ago. Admitted January 15, 1903, on the recommendation of her family physician, who had made the diagnosis of ovarian cyst. On admission a careful examination was made and she was found to be pregnant in the eighth month. The woman was delivered in the hospital on February 12, 1903, the labor being normal, but accompanied with considerable hemorrhage, leaving the patient markedly anemic, as she had been previously suffering from anemia during her pregnancy. Pepto-mangan was given her in doses of a tablespoonful three times daily from January 25 to February 28, when she was discharged cured. The reports of the blood examinations were as follows:

January 29, hemoglobin 55 per cent., reds 3,126,000, whites 8,450. February 28, hemoglobin 75 per cent., reds 4,390,000, whites 6,000.

Case 12.—G. G., Italian, 44 years, single, was admitted to the hospital on November 26, 1902. He is accustomed to smoke a pipe. For the past fourteen months he has had a sore on his lower lip, which gradually grew larger. At times it gave rise to a great deal of pain. On examination, a small growth was found in the medium line of the lower lip, hard in consistence, ulcerating, and with slight infiltration of the surrounding tissues. The sublingual and cervical glands were not enlarged. The growth was removed by a V-shaped incision on December 10, 1902. A moderate degree of anemia remained after the operation, and on February 6, 1903, the patient was given pepto-mangan, in doses of a tablespoonful three times daily. This medication was continued until March 5, 1903, when the patient was discharged cured. The microscopical examination of the growth showed it to be an epithelioma. The reports of the blood examinations were as follows:

February 6, 1903, hemoglobin 70 per cent., reds 3,219,000, whites 8,318. March 5, 1903, hemoglobin 85 per cent., reds 4,890,000, whites 7,000.

On reviewing the results obtained, we find that, considering the diversity of cases studied under the influence of pepto-mangan, the ratio of increase in the hemoglobin and red cells was very uniform. In one case only (8) of the twelve studied in detail, there was no improvement noted in the anemia, and that was a hopeless case of tuberculous peritonitis, in which, however, the patient was discharged improved as regards her abdominal symptoms after operation. In another case (6) the improvement was but slight, but this was a patient with renal tumor, and a marked cachexia. These two cases were as severe tests as an iron preparation could be subjected to, and perhaps the paucity of the results is not to be wondered at in these instances.

In the remaining ten cases reported here, the results were very satisfactory



for the short duration of the treatment. There is no question that a few weeks longer would have brought most of the "improved" cases up to the point where we could say that the anemia was "cured." But unfortunately our patients belonged to a class in which every day spent in a hospital counts in privations for others who depend upon them, and we have been often obliged, upon the insistent demands of the patients and their friends, to discharge the convalescents at the earliest possible date.

In addition to the forty-odd cases which we studied this winter, pepto-mangan has been used in the hospital for over two years in anemic convalescents, with uniformly satisfactory results. In none of the cases under our observation did any untoward symptoms accompany or follow the use of this preparation. In no case did constipation, nausea, headache, or digestive difficulties follow its administration.

The results recorded here correspond with those obtained with the use of pepto-mangan by Loomis<sup>1</sup>, Van Schaick<sup>6</sup>, and von Ramdohr<sup>7</sup>, of New York; Peterson, Perekhan, Doebling<sup>8</sup>, of Chicago; Wolffe<sup>9</sup>, of Philadelphia; Summa<sup>10</sup> and Bauduy<sup>11</sup>, of St. Louis; Von Ruck<sup>12</sup>, of Asheville, N. C.; McGuire<sup>13</sup>, of Richmond, Va.; Frieser<sup>14</sup> and Pohl<sup>15</sup>, of Vienna, and Fasano<sup>16</sup>, of Naples.

On the whole, therefore, we have found pepto-mangan a very satisfactory and efficient hematinic in secondary anemias.

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<sup>3</sup> Quincke, quoted by Häusermann, *Zeitschrift f. Physiologische Chemie*, Vol. xxii.

<sup>4</sup> White, *Materia Medica, Pharmacy, Pharmacology and Therapeutics*, 3d Amer. Ed. Edited by Wilcox, Philadelphia, 1895, p. 182.

<sup>5</sup> Loomis, H. P., *The Successful Treatment of Anemia*, N. Y. Acad. of Medicine, Section on General Medicine, April 18, 1893.

<sup>6</sup> Van Schaick, the Diseases of the Blood in their Relations to Surgery, and their Treatment. *New York Medical Journal*, June 2, 1900.

<sup>7</sup> Von Ramdohr. Results from the Administration of Iron in a Readily Assimilable Form after Gynecological Operations. *N. Y. Medical Journal*, June 26, 1897.

<sup>8</sup> Peterson, Perekhan, and Doebling. Experimental Reports with Gude's Pepto-Mangan. *Chicago Clinical Recorder*, 1896.

<sup>9</sup> Wolffe, A Clinical Report on Gude's Pepto-Mangan, Philadelphia.

<sup>10</sup> Summa, The Value of Gude's Pepto-Mangan in the Treatment of Anemia. *New York Medical Journal*, 1895.

<sup>11</sup> Bauduy, Observations upon the Treatment of Some Cases of Neurasthenia. *Medical Review*, St. Louis, Mo., February 26, 1898.

<sup>12</sup> Von Ruck, K., The Use of Pepto-Mangan for Anemia in Pulmonary Tuberculosis. *New York Medical Journal*, December 15, 1894.

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<sup>14</sup> Frieser, Notes on Chalybeate Therapy. The Therapeutic Value of Pepto-Mangan (Gude), Vienna, 1899.

<sup>15</sup> Pohl, A Contribution to the Therapeutics of Pepto-Mangan (Gude). *Aerztlicher Central-Anzeiger*, Vienna, September 20, 1899.

<sup>16</sup> Fasano, Malarial Anemia, Chlorosis and Rachitis. *Archivo Internazionale di Medicina e Chirurgia*, Naples, May 1, 1899.

Semi-annual Report of Schimmel & Co. (Fritzsche Brothers), Miltiz (near Leipzig), London and New York. October-November, 1903.

In 105 pages of a trade report, enjoying an international reputation for its scientific value, everything new in the trade and manufacture of essential oils and synthetic allied products—commercially and scientifically—is here set forth. As an appendix appears an exhaustive treatise "On the Pharmacotherapeutics of the Aethereo-Oleosa," by Prof. Dr. R. Kobert, Director of the Institute of Pharmacology and Physiological Chemistry, University of Rostock.

We do not know to what extent this useful publication circulates among medical circles, but we are certain that every studious medical man would find much of interest and value in it. Fritzsche Brothers, Barclay St., New York, are the publishers.

# The American Therapist.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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## Original Articles.

### *SOME NEW APPLICATIONS OF CARBOLIC ACID.*

By J. W. WAINWRIGHT, M.D., New York.

Applications of carbolic acid have recently been reported in medical literature of so great importance to the general practitioner that it is thought a brief resumé will be timely and acceptable.

As advised by Bacelli carbolic acid has been used in the treatment of tetanus with, as reports to follow will show, remarkable success. Its use in this dread disease is followed by diminished muscular contractions or spasms, and in some instances complete recovery.

The dose in tetanus is to begin 0.7 c.c. (10 min.) of a 10 per cent. solution. This is increased to 1.3 c.c. (20 min.) in fifteen minutes, and again in fifteen minutes to 2.0 c.c. (30 min.). This latter dose is continued every half hour throughout the day for the first day. The second day 2.0 c.c. (30 min.) of a 10 per cent. solution are given hypodermically every two hours. When the patient can swallow, 4.0 c.c. (60 min.) of a 10 per cent. solution in glycerin is given every three hours, per os, gradually diminished to 2.0 c.c. (30 min.) twice daily until rigidity has disappeared.

The cure of tetanus in a man who presented himself with a filthy dressing over a chronic ulcer on each leg is reported by David Smart.<sup>1</sup> Ten c.c. (3 iiss) of tetanus antitoxin were injected, and repeated in twenty-one hours without effect. The author thinks this dose may have been too small. Then 1.3 c.c. (twenty minims) of a 1 to 50 carbolic acid solu-

tion were given hypodermically every three hours. Twenty-eight injections in all were administered. After the first day steady improvement took place and continued till the patient was cured. The hypodermic solutions produced neither local irritation nor carboloria, although at the same time the ulcers were being dressed with a 1 to 40 carbolic acid solution. Chloral and bromid of potassium were given throughout the disease, but the author thinks that these were of only secondary importance.

H. C. Wood, Jr.<sup>2</sup> says that :

1. Carbolic acid gives better results in tetanus than does antitoxin treatment.
2. It acts by antagonizing the toxin and by quieting the nervous system.
3. It should always be given hypodermically, and in large enough doses, cases of tetanus being remarkably tolerant towards it.
4. Other methods of treatment should be continued, of which local disinfection of the wound is highly important.

Flavel Woods<sup>3</sup> considers Bacelli's method for the treatment of tetanus (carbolic acid) superior to the serum treatment now in use. He secured a prompt recovery in a boy of twelve years after injection of large doses. Comparing this treatment with others the Accademia Medica of Rome, collected the following statistics :

|                          |           |           |
|--------------------------|-----------|-----------|
| Bacelli's treatment..... | 30 cases, | 1 death,  |
| Tizzoni's serum .....    | 40 "      | 8 deaths, |
| Behring's serum No. 1..  | 11 "      | 4 "       |
| " " No. 11.              | 9 "       | 2 "       |

It is said that "Kelasoto has demonstrated that carbolic acid acts as an anæsthetic, an antiseptic, and as an antidote to the toxin tetanus."

W. G. H. Henderson in twenty patients

treated for tetanus with injections of 2 min. of carbolic to 20 min. of water, reports seven recoveries.

Four cases of tetanus treated at the St. Louis City Hospital by this method, with three deaths, are reported by H. L. Nietert and R. F. Amyx. The first case received 19 injections of a 2 per cent. solution, beginning with  $\frac{1}{10}$  gr., then increasing to  $\frac{1}{15}$ ,  $\frac{1}{12}$ , 2 and  $3\frac{1}{2}$  grains. The patient died, without any symptoms of carbolic acid poisoning. The second was given 11 injections of a 2 per cent. solution, in all  $11\frac{3}{4}$  grains; death resulted. The third received 9 injections of a 2 per cent. solution, aggregating 8 grains and also died. The fourth case, treated for eight days, received 93 injections of a 10 per cent. solution, amounting to 267 grains. The patient made a good recovery, no symptoms of carbolic acid poisoning being noted. They think that the toxins of the tetanus bacillus and carbolic acid are antagonistic to each other.

Gilberto Talvioli<sup>8</sup> reports a case of failure with this drug in tetanus. The case was a very severe one and the patient much debilitated when treatment was begun; the patient received forty-five injections of carbolic acid, aggregating 1.81 gms., in five days.

Felice D'Alessandro<sup>6</sup> reports three cases of traumatic tetanus in which hypodermic injections of carbolic acid were used without success. He attributes the failures to extreme gravity of the traumatism, insufficient amount of carbolic acid and extreme shock. "The amount of carbolic acid should be in proportion to the weight of the individual and not less than 1 centigram to each kilogram of weight."

Seneca D. Powell, in a paper presented to the New York Academy of Medicine, declares that it is possible for one to use a 95 per cent. carbolic acid freely, and no destruction of tissue result, providing it be freely washed away with alcohol. Seven cases of erysipelas were promptly checked by using pure carbolic acid, and after a few moments the application of alcohol.

S. Henry Dessau<sup>7</sup> is enthusiastic in his advocacy of carbolic acid as an internal remedy in various conditions, more particularly in the protean types of influenza as seen in children. He has used this remedy for six years in 3000 cases, in doses ranging from  $\frac{3}{16}$  gr. to 12 grains, and claims it to be as valuable and reliable a remedy in certain diseases of germ origin as any in the pharmacopeia. In his experience it neither changes the component elements of the blood corpuscles nor depresses the cardiac function in children or adults; nor has he observed any harmful action on the kidneys, but has used it in several cases of influenza complicated with nephritis. The therapeutic value of this drug in influenza was most marked in cases associated with high fever, malaise and extensive catarrhal involvement of the upper air passages. The remedy is best administered in the form of solutions made with water and glycerin, thus in ordering a 1 per cent. solution made with the addition of 1 dram of glycerin to every two ounces of water, one dram of the solution would represent  $\frac{3}{16}$  of a drop or grain of the acid, one dram of a 2 per cent. solution would represent one and one fifth grams or drops.

W. E. Fisher<sup>8</sup> records a case of anthrax of the left forearm successfully treated with one injection of a 10 per cent. solution around, into and beneath the site of infection. No carbolic acid was detected in the urine. The anthrax bacillus was demonstrated in shreds and cultures taken from a pustule at the seat of injury.

L. H. Mutschler<sup>9</sup> reports two cases of facial anthrax, in which injections of a 95 per cent. solution of carbolic acid were given around the site of disease, with success. The diagnosis in both cases was substantiated by the production of cultures of anthrax bacilli, and their subsequent injection into mice with a fatal result.

A. Bolduzzi<sup>10</sup> injects 1 c.c. of a 3 per cent. solution into the tumified joints of acute articular rheumatism and reports prompt cures.



Bennecke<sup>11</sup> recommends injections of 5 per cent. solution which are allowed to remain in the urethra in gonorrheal arthritis.

H. Judson Lipes<sup>12</sup> has used Heubner's method of injecting solutions of carbolic acid (1—4 per cent.) into the tonsils in five cases of scarlet fever, six of diphtheria, three of suppurative, three of simple and three of follicular amygdalitis; all cases with two exceptions were children between eight months and fifteen years. All the cases, except diphtheria, gave prompt and immediate results; in scarlet fever the temperature dropped and the general condition improved. No symptoms of intoxication and no sloughing of the tonsillar tissues were noted.

Zagato<sup>13</sup> reports a case of acute rheumatism of the right knee and foot, in which after the aspiration of 60 c.c. of a clear olive colored fluid, a 2 per cent. solution of carbolic acid was injected; in three or four days the patient could move the joints without pain. Similar treatment of the left knee gave the same good results.

In the most severe forms of otitis media, especially when meningeal complications threaten or when there is an elevation of temperature, W. A. Niemtchenkoff<sup>14</sup> uses injections of a 5 per cent. solution into the surrounding tissues of the middle ear as follows: The auricle being pulled forward, the needle is inserted into the aquamastoid fissure and then along the cartilaginous wall of the external auditory canal into the middle ear. The solution acts as an anesthetic and antiseptic.

Otto L. Muench<sup>15</sup> states that pure carbolic acid applied to burns and scalds acts as a remarkable analgesic and curative agent. He reports instances of small and extensive burns in his own family and in patients, in which the results were gratifying. No scars or muscular contractions remained after treatment.

Von Bruns<sup>16</sup> has used the pure acid in eighty cases of infected wounds and suppurating joints, with marked success. No toxic symptoms were observed. The

amount of the acid used varied with the size of the wound, but the amount ranged from two to six grains. The application of pure carbolic acid followed in a minute by irrigation with absolute alcohol is highly recommended for infected wounds.

John G. Sheldon<sup>17</sup> reports a case of gangrene following the use of carbolic acid. The patient entered the hospital complaining that his foot was very painful and felt cold and dead. A few days previously, he noticed a sore on one of his right toes. A physician gave him a dilute solution of carbolic acid with instructions to use it on the affected member. While preparing to follow directions, he accidentally spilled some of the carbolic acid solution on his left foot. This frightened him, and he neglected to apply any of the medicine to his right foot. All went well for five days, and then the left foot began to feel numb. This numbness increased, and on the eighth day the foot had become numb and painful. The left toes and foot presented the appearance of dry gangrene, and no definite line of demarcation could be made out. Amputation was performed at the middle of the leg. The gangrene extended, being now of the moist type, and in two days reached the knee. Sixty hours after the first operation was performed, a second amputation was done at the junction of the middle with the upper third of the thigh. From this recovery followed. The general condition of the patient previous to his first operation was good. The heart and blood vessels were normal. Uranalysis was negative, no sugar and no albumin being found after repeated examinations.

The author of this paper reported a case of carbolic acid poisoning through its application to the unbroken skin in the *Boston Medical and Surgical Journal*, April 3, 1902. A 4 per cent. solution was applied over the abdomen, thighs and lumbar region for persistent pruritis, at twelve o'clock, midnight, immediately following a hot bath. The patient was suddenly attacked with most excruciating pain at

seven thirty o'clock the next morning in presumably the bladder. This was quickly followed by vertigo, frequent chills, a profuse cold clammy perspiration, vomiting and tenesmus. The suffering was intense. Collapse was feared and heat with friction was resorted to. There was complete cessation of the functions of the stomach, bowels and kidneys. Alcohol was rubbed over the abdomen and thighs and towels saturated with alcohol applied over the abdomen and tubes. After four and one half hours the patient became drowsy. Food and drink were declined. Enemas of hot water were thrown high up and retained, but no movement of bowels or kidneys. Relief from pain began some four hours after the attack began and continued until midnight following, when the patient was comparatively comfortable.

There was great depression for three days with evidences of highly inflamed kidneys; the left kidney felt as if it had become loosened from its attachments and was floating. The urine disclosed characteristic smoky color and was loaded with albumin.

In ten days the patient was entirely recovered and has experienced no difficulty since. The carbolic acid was evidently absorbed more readily because of the ideal conditions following the hot bath.

This agent, because of the popular uses to which it is put as a disinfectant, and because of the ease with which it is purchased, is resorted to rather frequently by those desiring to commit suicide. It is no uncommon event, and for this reason the profession must needs keep abreast of later information concerning antidotes.

Buchanan, in the *New York Medical Record*, recently reported a case of attempted suicide, the patient swallowing an ounce of a 95 per cent. carbolic acid. Alcohol was used in 35 per cent. solution to wash out the stomach, two quarts being used, and recovery taking place, notwithstanding the mucous membrane of the mouth was apparently destroyed.

Flynn reports two cases of accidental poisoning with carbolic acid, both of which recovered after treatment with large quantities of milk. After the stomach has been emptied, which should be done as soon as possible, magnesium or sodium sulphate should be given, which unites with the carbolic acid to form the harmless sulphocarbolate. Strychnin should be given hypodermically to sustain the heart, and heat applied to the surface of the body together with friction.

D. H. Connally, in the *Southern Practitioner* for September, 1901, reports the case of a child two years old who took about a half ounce of carbolic acid mixed with an ounce of glycerin, which had been prescribed as a local application. Soon after the dose was taken convulsions occurred in rapid succession. The attending physician immediately administered two fluid ounces of cider vinegar every hour until three doses were taken. Nothing else was given except plain water to relieve the thirst, and the following morning the patient was about as usual. The antidotal effects of alcohol are now conceded, and this would seem to show that ordinary cider vinegar has the same effect.

Harnsberger records the case of a boy aged sixteen years, who swallowed 1½ ounces of carbolic acid; when seen within thirty minutes, he was comatose, with a hardly perceptible pulse. One pint of cream was poured into the stomach, the latter was kneaded, dry heat and friction applied to legs and arms. In three hours consciousness returned. He states that an adult can take half an ounce of pure carbolic acid mixed with cream or glycerin or with alcohol without any poisonous effects.

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## SYPHILIS: ITS SYMPTOMS AND TREATMENT.

By CLARENCE G. CLARK, M.D., New York,

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Notwithstanding the facts that a great deal has been written upon this subject and that there is practically nothing new in this particular branch of Genito-urinary work, yet I feel that syphilis is a disease about which too many erroneous opinions have been formed by the average general practitioner, and it is to those men who only occasionally meet with the various manifestations of this disease rather than to those who, with the advantages of Metropolitan Hospitals and Clinics see it in all its stages, almost daily, that I address this article.

The tertiary or third stage of syphilis is so varied in its symptoms and so far-reaching in its consequences that I can only briefly mention a few of the most important symptoms of this stage. But, as it is my firm belief that, if the disease is properly diagnosed and treated in its early stages, these symptoms need never occur, so I will devote myself to greater length in describing the symptoms of the stages of invasion and secondary infection. These are the stages in which a diagnosis should be made and in which the patient should be thoroughly instructed as to the nature of his disease and its many consequences. The entire future happiness of the man, or woman, suffering from this malady depends upon the physician whom they consult when they first discover the early manifestations of the disease. Too much

cannot be said about the almost criminal negligence of the so-called "Physicians" who advertise wonderful cures for "contagious blood poisoning," stating that, although no mercury or potash are used, they can be cured and cured completely within a period, varying with the conscience of the advertiser, from 10 days to 6 months. It is needless to say that no case of syphilis ever was or ever will be cured in 6 months. These men rely upon the almost miraculous action of mercury in causing all symptoms to disappear in a wonderfully short time, and in keeping the man abeyance for some time to come. But, where only a few months of treatment have been taken these symptoms, in more aggravated form, will reappear in later years of life and the legitimate practitioner, who, perhaps sees the patient for the first time, will find himself powerless to thoroughly eradicate the wide spread infection from the system, and the patient must go on through life with the knowledge that he has an incurable disease.

Through my connection with one of New York's largest Genito-Urinary clinics for some years I have been fortunate (or unfortunate) enough to see a great many of the earlier symptoms of syphilis as well as the tertiary ones. In almost every case where you question a patient in the tertiary stage, he will tell you that he had syphilis 4—5 years ago but was "cured." When you ask him how long he took treatment the answer will be—"about six months." It cannot be believed that all these men were treated by quacks and charlatans, so we must suppose that there are some members of the medical profession who believe that syphilis can be cured in 6 months, or else that the case was improperly diagnosed from the start.

As the only logical way to discuss this subject is by its three well marked stages, I will start with the first or primary stage. In the average case the primary symptoms are so slight that very often they are neglected by the patient. The incubation period varies from 10 to 21 days,



and often is even longer. Probably the first knowledge that the patient has that anything is wrong is caused by an itching sensation beneath the foreskin. On examination a small insignificant sore will be seen. This is, in the great majority of cases, situated on the corona and about an eighth of an inch to either side of the fraenum. Of course it may be located anywhere where abrasion of the skin or mucosa furnished a site for the entrance of the infecting organism, but it is a peculiar fact that, in more than half of the cases, the spot described is the place where the chancre is seen. In typical cases the primary sore is punched out with smooth base and hard indurated edges. It causes no inconvenience to the patient if there is no secondary infection. If there is also chancroidal infection, there may be several sores, each resembling the soft chancre or chancroid. It very often happens that the two infections are mixed and then the diagnosis of syphilis is practically impossible in this stage. Or the patient may have only one chancroid which has been so changed by caustics that it has the indurated appearance of a hard sore. The best way of differentially diagnosing these two sores, I have found to be, not by the induration but by the incubation period. If it is ten days or more and the patient is sure of it, then you can suspect syphilis. But if it is two to three days there is only one chance of it being syphilitic, and that is that the patient has a mixed infection, i. e. both chancroidal and syphilitic. In that case he will develop the chancroid in two to three days after intercourse, and the hard sore will be so concealed by the chancroids that the first evidence you have of syphilis is the appearance of the secondary rash. So one must be guarded in expressing a diagnosis in this early stage, and under no circumstances should anti-syphilitic treatment be instituted until after the secondary symptoms appear.

Of course these initial chancres may appear in other places on the body,—in

fact, wherever the contagion has found its entrance into the blood through an abrasion of skin or mucosa, but as these are rare I will not consider them here. Whenever found, the chancre, if it is not mixed, has the same general appearance, only varying with the amount of irritation it receives. Wherever the chancre is located, the nearest glands to it are found to be enlarged first. This enlargement is generally bilateral and they very seldom break down; these facts aid us in diagnosing hard from soft chancres. In the latter the enlargement is generally unilateral, and they are inclined to supurate. The bubo more often follows chancroidal infection.

The treatment of the initial lesion is very simple. If it is typical and syphilis is suspected, a bichloride wash (1 to 5000) and calomel dusting powder may be prescribed with instructions to the patient to keep the sore clean and dry. The lesion should not be cauterized if it is thought to be the initial lesion of syphilis. If it is a chancre nothing can be done to abort or prevent the constitutional invasion, and cauterization will only increase the induration and render the sore harder to heal. The chancre very often is well before any constitutional symptoms appear, and if not, will soon heal after mercurial treatment is started.

The secondary invasion period I have found, in some 1000 cases, to average about six weeks. Very often it is longer, but is never less than four weeks. During this time the patient is all right, except perhaps a feeling of malaise with occasional headaches. He should be kept under watch all this time. I make it a practice, even in chancroidal cases where I had no suspicion of syphilis, to make the patient come back four to five weeks after the appearance of the chancroid even if the local sores are completely well. If the patient is examined during the period the glandular enlargement will be found to have extended from the inguinal to the cervical region, and in almost all cases the epitrochlear glands are enlarged. This

is one of the most important diagnostic signs—bilateral enlargement of the epitrochlear glands.

The secondary symptoms are varied. They are all constitutional, and one or more of the recognized symptoms may be absent, but enough are generally present to render a diagnosis easy. To sum them up in the order of their general appearance we have:—rash over the entire body, but more pronounced on trunk and chest; falling out of hair; mucous patches in the mouth; and severe headaches. These are the most important, and are generally all present. There may be numerous other symptoms, however, such as, choroiditis, iritis, retinitis, condylomato, etc.

The outaneous manifestations are the most important as far as the diagnosis is concerned. The cutaneous rashes are called syphilids. Of these the most common is the macular syphilid:—small, flat, copper-colored spots, chiefly on abdomen and chest. Once seen these are never mistaken. Then we have the papular or acne like rash, and the squamous rash. There may be various combinations of these rashes, as papulo-squamous, papulo-pustular (the latter very often resembling small-pox). The constitutional disturbance is not severe, as a rule, but there may be fever, running from  $101^{\circ}$  to  $103^{\circ}$ , or anaemia of more or less severity, but if treatment is started early these are seldom alarming. The patches in the mouth are distinctive. They are whitish spots, generally on the sides of the cheeks or tongue, and may appear on the tonsils or uvula. The hair may fall out uniformly or in spots (areola areata). Where these three symptoms are present (and they generally are) there should be absolutely no doubt even if history of the primary sore be lacking.

I have often seen cases, where a diagnosis was made without the appearance of any of the usual secondary symptoms. Some cases develop only the rarer symptoms, such as condylomata, but in these cases the one symptom is so marked,

that, with the history, a diagnosis is easy. The secondary symptoms cover a long period of time and their severity varies with the resistance of the patient. The final and positive diagnosis should, however, be made upon the first appearance of any well marked secondary symptoms and treatment should be started at once. If this is done the graver manifestations of the late secondary or tertiary stages will, in my opinion, never be seen.

Now a word as to treatment. In the first place as soon as a diagnosis is made, I believe that (unless there are family reasons prohibiting it) the patient should be told of the nature of his trouble and told that he will have to take medicine for a period of at least two to two and a half years. I firmly believe that, if this advice be taken and the treatment properly given, at the end of this time he will be well. I have seen this proven more than once. I recall one case especially of a man who, after two years of treatment, was discharged as well. Eight months later he developed another chancre, which was followed by typical secondary lesions. This case is certainly proof enough that syphilis can be cured, despite all that the old books say to the contrary.

There are any number of methods of treating this disease, but there are only two drugs of any value and these come as near being specifics as any drugs can. These are mercury and potassium iodide, the former being the remedy for the second stage and the latter for the third. If the case is seen in the second stage the entire treatment may be conducted by the judicious use of mercury, but if the patient is in the third stage when seen for the first time KI will have to be used, but only with the hope of relieving symptoms. I do not think that tertiary syphilis can be cured. If you have a syphilitic ulcer or gumma potassium iodide will remove them with remarkable quickness, but when the KI is stopped other ulcers or other gummata will, sooner or later, return.

There are any number of methods of administering mercury, of which the following may be mentioned:—By the mouth, by inunction, by hypodermic injection, and by vaporization. I shall only attempt to describe in detail the routine which I have found successful in the treatment of the majority of cases. Each one of the above methods has its own advantages and disadvantages. For quick mercurialization the inunctions and hypodermic injections are certainly to be advised. The disadvantage to the inunction method is that it is dirty and hard to persuade patients to continue. It is almost impossible for the general practitioner to give his patients hypodermic injections for the reason that he does not see them often enough. Both these methods may be used where you desire quick action of the drug as in severe headaches or in some of the serious eye complications. For inunctions the ungt. hydrargyri of the U. S. P. or the oleate of mercury are the best. For hypodermic medication I have found the succinamide of mercury to be the most desirable. These injections should be given with a long needle, which is inserted into the deep muscular tissue of the buttocks. If the injections are not deep enough abscesses are very apt to follow.

But for the average case these are not necessary and, in my opinion, to be condemned. I have found the old method to be the best, i. e. by the mouth. For this purpose I prefer the Protoide of Mercury. When the treatment is first started the patient should be seen quite often. He should first be given one-quarter of a grain of the yellow iodide 3 times a day after meals. After he has become accustomed to this dose (generally by the end of the first week) the dose may be increased to one-half grain t. i. d. It is not often necessary to give more than this. By the end of the second week the symptoms will be markedly better. If no signs of mercurial poisoning show themselves (such as tenderness of the

gums, or severe diarrhoea) this dose of one-half a grain is to be kept up till all the secondary symptoms have disappeared, which will generally be at the end of the third or fourth week. Then the original dose of one-quarter of a grain t. i. d. can be given again and the patient need not be seen as often. It is my custom to continue this without intermission for the first six months. Then, in order to eliminate the accumulated action of the mercury, potassium iodide may be given for one month in doses of gtt. x, t. i. d., then six months more of the mercury. At the end of the first year pot. iod. may be given for one month, and the patient may then be allowed to go one month without any medicine. Then another year of this routine treatment followed by one or two months of pot. iod. and the patient may be discharged as well. Of course this is only the average case and there are other cases in which the symptoms do not abate. In these other salts of mercury, as the biniodide or the bichloride, may be resorted to. But I have never seen more than a dozen cases in which the treatment described was not only borne very well but in which the patients did not rally under the treatment and gain weight. After the first secondary symptoms have disappeared there are seldom any more, with the exception of an occasional mucous patch during the first year. The second year is usually free of all symptoms.

In this article I have not mentioned the tertiary symptoms, because I have never seen them in patients who have submitted to treatment for the period required. The tertiary stage is the stage of syphilitic tumors, or gummata, and of the ulcerative syphilides. These gummata may appear in any part of the body where connective tissue is found, but are especially common in the liver and brain. The syphilides of this stage are deeper seated and cause extensive ulceration. The treatment is by the use of pot. iod. in increasing doses until the tumor is absorbed or the ulcers



have healed. Then the mixed treatment may be given, the best formula I know of for this being the Mistura "C" of the N.Y. Hospital formula, which is as follows:—

R Hydrargyri binoid..... gr. 1:16  
 Kali iod. (sat. sol.).....gtt. x  
 Syr. sarsap..... 3ss  
 Aquae..... q. s. ad 3i  
 M Sig- 3i t. i. d. p. c.

This may be continued indefinitely. Patients who reach this stage are never completely cured, the symptoms sooner or later reappearing if treatment is discontinued.

A word as to the treatment of special symptoms. The mucous patches are best treated by burning them with a ten per cent. solution of chromic acid. Smoking must be forbidden. The severe headaches sometimes require morphia. Nearly all the other symptoms will yield with amazing quickness to mercury and potassium iodide. In the later stages the latter drug may be given in doses as high as 50 grs. t. i. d. without untoward effects.

In this article, I am perfectly aware, that there is nothing that is new to most of my readers. I have simply attempted to bring up a few old points about an old disease. If I have succeeded in impressing that, properly handled, syphilis is no longer the scourge that it was, when Shakespeare put the saying into the lips of the grave-digger in Hamlet: "As we have many pocky corpses nowadays that will scarce hold the laying-in," but that it is a disease that can be controlled with greater readiness than can any of the acute infectious diseases, then I am satisfied. If it were possible to restrain those syphilitics who are in the stages where they could convey the disease by contact, then it could be stamped out with greater readiness than small-pox, leprosy or any of the allied diseases. Syphilis is not highly contagious, as there are only a few of the lesions which when brought into contact with a denuded surface on another body will convey the contagion. Chief among these is, of course, the initial chancre, and next comes the mucous patch. I

think that it is safe to say, that if every man or woman with a suspicious venereal sore were confined until well, that nine-tenths of our syphilitic cases would immediately be done away with. But this is the twentieth century and we are entirely too enlightened to consent to cutting short a man's or a woman's liberty, simply because they may be the cause of conveying unhappiness to hundreds of other men or women in the future. This disease is an endless chain which will never be broken until some such radical measures are taken.

In the meantime we must, as physicians, do our best to relieve the sufferer, and for the sake of future generations try to impress upon him the importance of prompt and thorough treatment. It is certainly true that the disease is getting less and less virulent as the years go by, and I think that this is due to nothing but the prompt use of mercury in nearly all the cases.

#### CLINICAL OBSERVATIONS ON THE TREATMENT OF DISEASES OF THE RESPIRATORY ORGANS.

By M. LUTHER SPRIGGS, M.D., Joplin, Mo.

Diseases affecting the Respiratory Organs, while occurring at all seasons and under all conditions, are necessarily, because of climatic conditions, much more frequently observed during the autumn, winter and early spring months.

In a majority of cases of this nature the most prominent symptoms are cough and dyspnea, and I know of no other condition which more urgently requires relief than these. In no other condition is the physician more sorely tried nor his resources more severely tested than in obstinate cases of this nature, and many times his ability in treating other diseases is judged by the facility with which he has relieved certain cases of obstinate cough, which have defied all the ordinary forms of treatment.

The only correct means the public has of forming an opinion of our work is by results, and certainly nothing can be more apparent than good results obtained along this line, and in the same way results which are not satisfactory are readily noticed and frequented commented upon.

While it is very important to relieve our patient of an irritating cough and its accompanying ill effects, the selection of a remedy, or remedies, by which this result may be produced is especially important. One fact which should be kept in view is that depressants are to be avoided.

The vital forces are frequently below normal and will be severely tried during the course of the disease. Likewise any system of treatment which has a tendency to disturb digestion should be avoided, because the ultimate effect is sure to be depressing. Opium, morphia and codeine have been much used, but because of their unpleasant after-effects, together with the danger of habit formation, their use should be discouraged.

Fortunately we are much better supplied with reliable, as well as elegant and palatable, remedies, than was the case a few years back, as a result of the well directed efforts of the manufacturing chemist.

To be compelled to return to the old time method of prescribing mixtures which were unsightly, unpalatable and often times unreliable in effect, would indeed be a calamity to both physician and patient alike.

Some time ago my attention was directed to a preparation called Glyco-Heroin (Smith) prepared by Martin H. Smith Company of New York, and placed before the medical profession as a remedy to be used in coughs and pulmonary affections. The formula at once commended itself to me as being a combination of particularly useful remedies.

In point of elegance and palatability the preparation may be regarded as a pharmaceutical triumph. For this reason it appeals to the patient immediately, a not

unimportant item in our work. It is well tolerated by the most sensitive stomach, and indeed I have observed a decided improvement in the stomach under its use in cases where gastric derangement was a prominent symptom.

As a succedaneum for morphia and other preparations of opium in the class of cases under consideration, heroin has attracted wide attention. Its power to allay bronchial irritation and relieve cough is greater than morphia or codeine, and its use is not followed by nausea, constipation, nor any disturbance whatever of the digestive organs. So far as my own observations have extended and from the clinical reports of others, which I have read, it seems perfectly safe to administer this drug for an indefinite period of time, if necessary, there being no tendency on the part of the patient to become an habitué.

It is not surprising therefore that, when properly combined with other drugs of proven value, as in glyco-heroin that the result should be a product of unusual merit.

My favorable impression of the preparation, as well as dissatisfaction with my previous methods of treatment, led me to institute a number of clinical tests in which the results were carefully noted. As a result we have for some time past been using glyco-heroin in my hospital as a routine treatment for coughs from whatever cause, without any cause for dissatisfaction.

Physicians as a rule are not slow in recognizing true merit, particularly when their own interests are involved, and it is to predict for this remedy a prominent place in the armamentarium of all progressive physicians.

In these days of commercialism it is a pleasure to note the strictly ethical manner in which this preparation is being introduced to the medical profession for their exclusive use. Below I append the history of a few cases taken at random from my case-book, which may prove of interest.

*Case 1.*—Harry S., age 17, tall and slender, light hair, blue eyes. Family history good, with exception of mother, who probably died of phthisis pulmonalis. Had severe attack of croupous pneumonia involving almost the entire left lung. Temperature dropped to normal and convalescence was established on the 10th day. Owing to exposure this was quickly followed by a relapse which was ushered in with a severe rigor followed by a high temperature. All of the lung tissue which was involved in the first attack became inflamed again and following this was a condition of delayed resolution. The case came under my observation four weeks after the onset of the second attack. At this time his morning temp. was 100 degrees F., evening temp. 102 F., pulse 120, resp., 48. Profuse night sweats occurred regularly, coughed almost incessantly with slight frothy expectoration and vomited frequently. Patient very pale and emaciated. Physical examination revealed consolidation of almost entire left lung.

*Treatment.*—A counter irritant consisting principally of spts. turpentine was applied over affected area and the chest enveloped in absorbent cotton, held in place by an oil-silk jacket. Cotton was renewed and the counter irritant re-applied once each week throughout the treatment. The bowels were regulated, and glyco-heroin prescribed in teaspoonful doses every two hours during the day. The interval between the doses to be extended at night, if the patient slept. No other medicine was given, but as the stomach became more quiet, light nourishment was given liberally. An abundance of fresh air and all the sunshine possible were admitted to the sick room. After treatment for one week the temperature became normal, the cough had ceased to cause serious trouble and the improvement in every way was most decided. The glyco-heroin was then given in teaspoonful doses at intervals of three to six hours as needed to relieve cough. The improvement continued steadily, and at the expiration of

three weeks from beginning of treatment patient was discharged entirely well.

*Case 2.*—Miss C., age 23. History of tuberculosis on mother's side. Had enjoyed good health until two years previously, when she had a severe attack of La Grippe, which left her with a persistent cough which had resisted all treatment. There had been a loss of ten pounds in weight, appetite poor and patient much discouraged. Examination, in which the microscope was employed established diagnosis of chronic bronchitis.

*Treatment.*—Bowels were regulated, and glyco-heroin was given in teaspoonful doses every two hours when awake. Improvement was noted from the first, and after the expiration of three days the glyco-heroin was given four times daily with instructions to use more frequently, if necessary, to relieve cough. Treatment continued four weeks, during which time cough disappeared entirely and a gain of eight pounds in weight was recorded. Patient discharged well.

*Case 3.*—Mrs. C., age 49. Family history negative. Health good with the exception of a dry hacking cough which would manifest itself in the autumn and persist despite all ordinary forms of treatment throughout the winter.

*Treatment.*—Glyco-heroin was prescribed in teaspoonful doses four times daily with instructions to use more frequently, if necessary. After treatment for one week, the cough being relieved, the medicine was discontinued, with instructions to keep it on hand and use if necessary. Patient has since informed me that she only found it necessary to resort to it on two occasions during the following winter and prompt relief was obtained in both instances.

*Case 4.*—Mrs. G., age 33. Had been a sufferer from serious pelvic diseases for many years, during which time bronchial irritation had been constantly present. I removed the womb, ovaries and tubes, operating from below. Patient made a satisfactory recovery, leaving her bed in



three weeks, with the exception of the cough which persisted. Glyco-heroin was then given in teaspoonful doses four times daily for two weeks. Under its use the cough disappeared and the patient is now in perfect health.

*Case 5.*—Mr. B., age 40. Operated for appendicitis. Third day following operation developed circumscribed inflammation in left lung characterized by pain, cough and bloody sputum.

*Treatment.*—Counter irritation, absorbent cotton and an oil-silk jacket were applied to the chest. Several small doses of calomel, pv. ipecac and sod. bicarb. in combination were given, and this was followed by one ounce of castor oil. Bowels moved promptly, and glyco-heroin was then given in teaspoonful doses every three hours. This was continued three days when all symptoms had disappeared.

*Case 6.*—Mr. C., age 54. Occupation, boiler maker. Had suffered from attacks of spasmodic asthma for twenty years, considerable emphysema present.

*Treatment.*—Glyco-heroin was prescribed in teaspoonful doses every two hours with the result that the asthmatic attack was promptly controlled. Four doses of the medicine were then given daily for one month. He was then instructed to keep a small quantity on hand and to use it promptly same as before at the first indication of a return of his old trouble. This was more than a year ago and he has recently reported to me that he has had no recurrence.

*Case 7.*—Marie T., age 3. Severe attack of pertussis.

*Treatment.*—Glyco-heroin was prescribed, XV gtts. at intervals of two to six hours as indicated by the cough. The attacks of coughing were rendered much less frequent, not so severe, and the case terminated much sooner than is usual.

In many cases of advanced tuberculous lung disease, I have obtained prompt relief from the annoying cough and more or less permanent benefit by the use of this remedy.

## SELECTED PRESCRIPTIONS.

### PLEASANT METHOD OF ADMINISTERING TURPENTINE.—

R Turpentine-oil ..... 3 iij  
Pulverized acacia  
Sugar.....of each, 3 iv  
Comp. spirit of lavender..... 3 iij  
Water..... 3 vj

M. Sig.: One to two teaspoonfuls in a little water every three hours.

—*Texas Medical News.*

ACUTE RHEUMATISM. — The following combination, according to Peabody, is of value in the treatment of acute rheumatism :

R Acidi salicylici..... 3 ss  
Ferri pyrophos..... 3 j  
Sodii phosphati..... 3 x  
Aqua..... 3 vj

M. Sig.: One tablespoonful every two hours well diluted in water.

—*Journal of the Am. Med. Ass'n.*

### WHOOPIING COUGH.—

R Acidi nitrici dil..... 3 xij  
Tinct. card. co ..... 3 iij  
Syrupi..... 3 iiii  
Aqua..... 3 j

Sig.: One or two small teaspoonfuls every two hours.

—DR. J. S. HOWARD, *Medical Council.*

The following is recommended for the treatment of pneumonia: Creosote carbonate, 10 drops every three hours; ice bag to affected lung; one on each side for bilateral pneumouia; sponge for temperature or an occasional dose of antipyretic if the pulse is not too weak; morphin for pain.—*Medical Recorder.*

METHYLENE BLUE IN TUBERCULOUS DIARRHEA —Combemale and Maguin in *Revue française de médecine et de chirurgie*, for November 9, 1903, corroborate the testimony of L. Rénon as to the value of methylene blue in obstinate diarrhea, particularly in tuberculous subjects. The formula they used, was :

R Methylene blue ..... 15 cgm. (2¼ grs.)  
Lactose..... 60 cgm. (9 grs.)

M. Two such capsules daily.

—*N. Y. Medical Journal.*

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## Editorial.

### FRECKLES.

The deposition of pigment in the skin is said to be a result of exposure to the sun. They generally appear in the summer and disappear in the winter, and invade those portions of the skin most exposed to the light; they are, however, by no means rare on covered portions of the body. Blondes are more effected than brunettes and people of light complexions are especially susceptible in the sun's rays just as they are to the effects of the X-ray.

The removal of freckles offers but little difficulty, but to prevent their return is another proposition. One of the popular remedies is the frequent application of pure lemon juice. Practically such an application acts by causing an exfoliation of the external layers of the epidermis. An efficient remedy is a solution of corrosive sublimate, four grains to the ounce of rose water. It should be dispensed in small quantities because of its poisonous properties. Others which have met with favor at the hands of the profession are dilute solutions of acetic acid, saturated solution of boric acid, strong solutions of potassium carbonate, diluted ammoniated mercury, resorcin in the strength of one or two drams to the ounce, saturated aqueous solution of borax, etc. All induce desquamation if they are too con-

centrated. When there is irritation soothing applications of glycerin or cold cream are applied till the irritation subsides, and the application again renewed.

If a rapid result is desired, and the patient is willing to undergo a few days of retirement, equal parts of resorcin and UNNA's zinc paste may be spread thickly upon the face twice a day for three or four days and then follow with any emolient application. This induces free desquamation and a rapid cure. UNNA's paste is prepared as follows:

|   |                       |        |
|---|-----------------------|--------|
| R | Silicated earth.....  | gr. xx |
|   | Zinc oxid.....        | 3 ij   |
|   | Benzoinated lard..... | 3 j    |

—W.

TRIGEMIN.—Overlach (*Berl. Klin. Wochenschr.*, No. 35, 1903).—This new analgesic is derived from pyramidon, by the action upon the latter of butylchloralhydrate. It seems to exert a specific sedative action upon the cranial nerves, but has no depressant effect upon the heart, so that it may safely be given in organic heart disease. It was found to be useful in all forms of headache and migraine, and especially in occipital and facial neuralgia and even in toothache. The dose is from 0.5 to 1.2 grams (8 to 18 grains) once or twice daily.—*Inter State Medical Journal*.

ISOPRAL, A NEW HYPNOTIC.—Isopral, a chlorated propylic alcohol, forms a crystalline body readily soluble in water, alcohol and ether, and possesses a camphoraceous odor and aromatic pungent taste. Its physiological action has been carefully studied by D. Impens (*Therap. Monatshft.*, September and October, 1903), who finds that while less poisonous than chloralhydrate, it resembles this in action and is at least twice as efficient. Cardiac depression is less marked, respiration is only affected with tonic doses, and locally it possesses distinct anesthetic properties, though irritating at the same time. In doses of 0.5 to 0.75 gm. (8 to 12 grains), it is as efficient as chloral and it has no after-effects.—*Medical News*.

## Current Literature.

**APOLYSIN** (Mono-phenetidin-citric acid) resembles phenacetin in its chemical composition, but contains citric acid instead of acetic acid as the acid radicle. It is a yellowish crystalline powder, with a peculiar odor and taste, melting at  $72^{\circ}$  C., soluble in 50 parts of cold and 25 parts of boiling water. It is also soluble in glycerin, alcohol, and in nitric and sulfuric acids. Solutions in sulfuric acid do not change color, but nitric acid solution changes to a pale orange color. Aqueous solutions of apolysin are not precipitated by silver nitrate. It is claimed that apolysin is free from the poisonous effects of phenacetin and without disagreeable after effects, and useful therefore as an antipyretic and analgesic. The dose is from 0.5 to 1.3 gm. ( $7 \frac{1}{2}$ -gr.).

**TENTS AND TUBERCULOSIS.**—The astonishing results which have attended "open air" methods in the combat with consumption have focused professional attention and aroused public interest throughout the world. Many of our modern dwelling houses are sadly lacking in hygienic necessities for healthy life, and tend to engender conditions strongly predisposing to consumption. The establishment of elaborate sanatoria for the phthisical is an expensive enterprise. It is interesting, therefore, to find that a recent experience has shown that even in a northerly climate treatment in tents may prove of the greatest benefit. The advantages of nomadic existence can be vouched for by many a fashionable vagabond, and the joys of tent life are known not only to many of our colonials, but every year are being realized by a larger number of persons at home. The holiday camps for the young of our large cities have clearly demonstrated their hygienic utility. For the enterprising there are many countries where tent life may be indulged in without the disadvantages inseparable from a treacherous climate, and there can be no

doubt that for those predisposed to consumption by family inheritance or previous disease tent travel offers peculiar attractions and undoubted advantages.—*Med. Press and Circular*.

**CASE OF ACUTE ALCOHOLIC POISONING IN A CHILD AGED FOUR YEARS. TREATMENT BY SALINE INJECTIONS. RECOVERY.**—Dr. F. C. Foster, in *British Medical Journal*, May 16, 1903, reports (as quoted by *Archives of Pediatrics*):—A boy, four years of age, swallowed two ounces of whiskey. Forty-five minutes later he was insensible, temperature  $97^{\circ}$  F., skin cold and clammy, pulse irregular and uncountable; pupils dilated, corneal reflex absent. He was given strychnin sulfat grain 1-30, the stomach was washed out, and as he was still in collapse, he received another injection of strychnin and digitalin, 1-50 grain each, and a hot bath. One pint of warm saline solution was then given by rectum. The child rallied after this and half an hour later was able to take hot beef tea by mouth. The writer is convinced of the efficacy of the saline solution given by rectum even in conditions of collapse.

**A CASE OF NEVUS OF THE SCALP AND NOSE. TREATED BY HOT WATER INJECTIONS.**—Dr. Frederic Griffith, in *New York Medical Journal*, May 2, 1903, reports:—The patient was a girl seven months old, with a nevus of the scalp the size of a half dollar, and one on the nose, covering that organ. The growths were treated by injections of water at a temperature of  $180^{\circ}$  to  $200^{\circ}$  F., after the suggestion of Wyeth. Repeated injections were required and resulted in the shrinkage of the growths. In neither instance was the skin surface damaged by the injections.

**A CASE OF BROMOFORM POISONING.**—Dr. Henry K. Dillard, in *The Therapeutic Gazette*, April, 1903, reports:—A child sixteen months old, received two doses of four drops each of bromoform at an interval of



two hours. Shortly after the second dose she suddenly became unconscious, with pin point pupils, cold, clammy skin, and weak, irregular pulse. In this condition she remained three and one half hours. Under vigorous stimulation the child at the end of that time suddenly roused from her unconsciousness, moved arms and legs, cried lustily, and appeared to be fully recovered. The bromoform administered was not the last in the bottle, six drams remaining, and could not therefore have been concentrated.

Therapeutic Progress in 1903. — Dr. Philip Newcomb, in *St. Louis Courier of Medicine*, summarizes briefly: During the past year many new remedies of more or less importance have been brought forward, but the real therapeutic advance is to be found rather in work done upon drugs and methods known before, rejection or confirmation of the claims of their adherents, and in opening up new lines of usefulness for agents of value already known.

Among the more recent remedies reported upon during the past year, mention is made of the following:

BROMOCOLL is a compound of dibromtanin and glue and is recommended in the form of 10 to 20 per cent., has merits as an antipruritic.

DIGITALONE is the result of an attempt to obtain a uniformly active sterile and non-irritating preparation of digitalis for subcutaneous and internal use. It is a 10 per cent. non-alcoholic fluid preparation, which animal and clinical experimentation has shown to be uniform, non-irritating and readily absorbed subcutaneously, producing the typical digitalis reaction when given per rectum internally, hypodermically or intravenously, and is aseptic.

LIBANOL is an ethereal oil derived from *cedron atlantica* and is advocated as an anticatarrhal in gonorrhea, cystitis, chronic bronchitis and tuberculosis.

NARKOTTE is an inhalation anæsthetic similar in action and nature to ether.

PYRANUM is claimed to be a mild antipyretic and powerful anodyne, composed of benzoic acid, salicylic acid and thymol in the form of a sodium salt and has been used in the various forms of rheumatism, neuralgia, migraine, sore throat, pneumonia, whooping cough and phthisis.

SALOCREOL is a combination of creosote and salicylic acid and has been used with great results as a topical application in facial erysipelas, chronic articular and muscular rheumatism, lymphadenitis and tonsillitis.

STYPTOL is a new uterine hemostatic, useful in all forms of uterine hemorrhage, except that due to subinvolution, and is stated to be free from oxytoxic or outward accessory effects.

VALEOBROMINE, a sedative and antispasmodic, is claimed to have the same therapeutic effects as the bromids, but to be more energetic in action.

VERONAL has been proven a most efficient hypnotic in simple insomnia and in cases dependent upon neurasthenic, climacteric and periodic depression.

USE OF ATROPINE IN INCARCERATED HERNIAS. — D. Hagen (*Medical News* from *Deutsch. Arch. f. klin. Med.*, Vol. 78, Nos. 5 and 6) has discovered that the physiological activity of atropine will readily explain the efficiency of this drug in incarcerated hernias, if the pathology of these be considered. In every incarceration there is a paresis of the musculature of the intestinal loop, accompanied by a reflex tetanic irritation of the external oblique muscle. Since atropine first stimulates muscles supplied by sympathetic nerves, it will tend to overcome the paresis; its subsequent paralyzing action will then be directed against the tetanus of the abdominal muscle. The author proceeds as follows: Half a cubic centimeter of a 1-1,000 solution of atropine sulphate is injected into the neighborhood of the hernia; if this is effective, the dose is repeated every

hour; if not, double the dose is injected and a gentle attempt at taxis is made. After six to eight hours a laparotomy is indicated if vomiting continues, and the pulse and facial expression do not improve. It will be possible to save many patients from operation and the method demands an extensive trial, especially in the aged, where the mortality is unusually high.

A NEW HYPNOTIC. — Impens (*Therap. Monatsh.—Amer. Medicine*) has made a series of experiments with trichlorisopropylalcohol, which has been given the name isopral. It is sparingly soluble in water to the extent of 3.3%. Isopral has a camphor-like odor, and its solution placed on the tongue produces a burning sensation followed by local anesthesia. It is absorbed by the skin, subcutaneous tissues, and digestive tract with rapidity; after its administration by the mouth its effects can be noted in 3 to 5 minutes. Upon the lower animals, including fish, frogs, rabbits, and dogs, it exercises a marked somnifacient action. The effective dose is small compared to the amount required to kill, the ratio being 1-6.4 in the dog; that of chloral is 1-4, of chloreton 1-1.6.

THIOL FOR UTERINE DISEASES, ETC. — George Foy, M. D., F. R. C. S., Surgeon to Whitworth Hospital, Druncondra, Dublin, says (*Med. Press and Circular*, Dec. 2, 1904) that the value of ichthyol as a therapeutic agent is well known to gynecologists; but its unpleasant smell and its staining of linen, etc., were such drawbacks to its usefulness that gynecologists sought for a drug of similar properties, without the unpleasantness attending its use. After some experiments, Dr. Kolenko selected *thiol* (*Medicinskoie Obosranie*) prepared from gas oil heated with sulphur. Thiol has been for some time in use as an internal remedy in gynecology, administered internally in pills; but Kolenko trusts to it more as a topical application in pelvic and uterine inflammations. He

applies the liquid thiol to the interior of the womb in endometritis, and as an embrocation to the cutaneous surface. Applied to cervical and labial ulcers, and those of the womb, he has found its use to be followed by rapid cicatrization. He also employs suppositories of dry thiol and coconut oil and tampons. From an experience of a hundred of cases treated with thiol, Kolenko considers that this drug is fully equal to ichthyol in the treatment of inflammatory affections of the pelvis and the womb, and as it possesses none of the undesirable properties of the latter, it should soon come into popular favor with gynecologists. — *Va. Med. Semi-Monthly*.

BISMUTOSE AS AN INTESTINAL ASTRINGENT. — The value of this preparation is commented on by P. Conheim (*Medical News* from *Berl. klin. Woch.*, Dec. 28, 1903). He has used it in a large number of cases of catarrhal intestinal conditions, and finds that although in chronic cases it does not produce a cure, it effectually relieves the distressing symptoms. It is of particular value in the chronic diarrheas of adults, especially in alcoholics, where he has given it in doses of one-half to an entire teaspoonful three times daily after meals. This should be continued for at least four weeks, together with proper regulations of the diet.

TEACHING THERAPEUTICS. — Prof. R. W. Wilcox, of New York, in an article in the *Medical News*, Oct. 10, 1903, says that the student should acquire:

1. A practical acquaintance with various remedial physical measures and remedies not less physiologic, and methods of preparing the latter. This should be acquired during the early and mnemonic period of the student's career (recitation and demonstration).

2. Actual knowledge of the action of agencies and remedies acquired by personal experimentation and demonstration under the teacher's eye (laboratory demonstration).

3. Application of these agencies and remedies, the actuality of their effects for good or evil having been fixed in the student's mind, in the treatment of diseases and symptoms, under proper supervision (lecture and clinical demonstration).

4. The accurate direction for the exhibition, in strict pharmacopeial nomenclature, of remedies and the scientific use of physical agencies must be so thoroughly comprehended by the student that he can not only intelligently apply them, but give valid reason for his treatment (clinical practice and conference).

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THE VALUE OF TRICRESOL AS AN ANTI-SEPTIC IN OPHTHALMIC PRACTICE. — Dr. Edward Jackson, of Denver, Colo., writes in commendation of de Schweinitz' aqueous solution of tricresol 1 to 1000 as a basis for collyria. Jackson's experience with this solution has convinced him that it constitutes a more nearly ideal antiseptic than any yet tried in ophthalmic practice. When applied to the conjunctiva it causes only a momentary sensation of burning, comparable to the transient smarting induced by simple solutions of eserine or cocaine. He has used it with entire satisfaction as a basis for solutions of cocaine, eserine, and most of the mydriatics. While the solution of 1 to 1000 has a very perceptible odor of tricresol, this smell is not noticeable upon the patient.—*Medical Bulletin*.

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HYOSGIN. — *American Medicine*, for Nov. 28th, (*Cleveland Medical Journal*), calls attention to the confusion existing concerning the solanaceous alkaloids, and states that, alarmed by the statement that the hyoscin of commerce is really scopolamin, many physicians have ceased to use the drug. This neglect of the remedy means the loss of a valuable addition to our agents for the relief of suffering. Whether we adopt the German view and consider hyoscin and scopolamin as identical, or insist upon their separate identities, the fact remains that hyoscin is a

useful therapeutic agent. Kochman points out that although in cases of idiosyncrasies, hyoscin may cause alarming symptoms, not a single fatal result undoubtedly due to its use has ever been reported. In its physiologic action this alkaloid resembles atropin, but differs in not having any effect on the circulation, and in its peculiar sedative effect on the higher nerve centers. In various forms of insanity, especially of a maniacal type, it is perhaps the most valuable somnifacient we possess, not only on account of its power to allay the excitement, but also because it can be administered hypodermically. Its repeated use, however, frequently causes loss of appetite, attributable to difficulty in swallowing. It is also an extremely important remedy in paralysis agitans. In other nervous affections, save for its hypnotic power, Kochman does not believe it of much value. It has, however, been found useful in various forms of sexual excitement.

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NEURALGIA. — Dr. C. H. Frazier, in the *American Journal of Medical Sciences* for December, states that trifacial neuralgia is probably in 20% of the cases amenable to treatment other than operative. In some cases the disease has a tendency to run its course, usually reaching its height in five or six years, and then exhibiting a tendency to spontaneous cure. The medicinal treatment consists, first, in the removal of all predisposing causes, as malaria, anemia, exhaustion, or any peripheral irritation, such as a carious tooth, or antral disease. Secondly, the use of drugs, and the drug which is, *par excellence*, the most efficacious, especially so in the exhausted and anemic state, is strychnin. In cases of but one or two years' standing, strychnin properly administered will arrest or control the disease almost invariably. In order to obtain this result the drug must be administered in heroic doses, and the patient must be kept under the closest observation, and should be confined to bed. The



remedy is administered hypodermically once daily, in gradually ascending doses, until at the expiration of two weeks the physiologic limit is reached. Thus beginning with one-thirtieth of a grain daily the dose may be increased to one-tenth or one-eighth, or higher, and when the maximum dose is reached it should not be given oftener than once on alternate days. After the pain has entirely disappeared the drug should be gradually withdrawn. As adjuvants to this treatment rest is regarded as of the utmost importance, and iodid of potassium and the tincture of chloride of iron are regarded as more or less helpful. It is perfectly proper and justifiable to give medicinal measures a fair trial for a year at the utmost, and then if the attacks are very frequent, severe and uncontrollable, operative intervention is the only hope of relief. — *Cleveland Medical Journal*.

INSOMNIA OF MELANCHOLIA. — F. X. Dercum points out that among the special symptoms requiring attention in melancholia, insomnia is highly important. Sometimes, but not frequently, simple expedients, such as induce sleep in neurasthenia, will suffice; thus, a glass of hot milk at bedtime, or a warm sponge bath given just before the sleeping hour. Elaborate baths are only exceptionally tolerated. Neither the drip-sheet nor the wet pack can, as a rule, be employed. It is true that in some cases, especially in prolonged hypomelancholia, the wet pack affords a very valuable method of inducing sleep; in ordinary cases of melancholia, however, both the drip-sheet and the necessary manipulations of the wet pack distress and annoy the patient. Notwithstanding this, hypnotics should not be resorted to unless the insomnia is exceedingly grave and persistent. The patient is often able to get along with comparatively little sleep, or a sleep that is badly broken. Often he is anxious for the administration of medicine, and under ordinary circumstances it is wisest to begin

with a placebo, such as a capsule of starch. In mild cases this may satisfy the patient, but as a rule it fails to bring about sleep. Not infrequently, in spite of all our efforts, we are forced at times to make use of drugs, and then the mildest of the hypnotics should be used, and only in the smallest dose consonant with securing improvement of the sleep. Moreover, they should never be continued for any length of time. A trial may first be made of hyoscin or of scopolamin .6 mg. to .3 mg. ( $\frac{1}{300}$  gr. to  $\frac{1}{100}$  gr.) with paraldehyd 4 gm. to 8 gm. (1 dr. to 2 dr.) Frequently we are compelled to fall back upon trional and sulfonal, and it should be borne in mind that a combination of these drugs usually acts better than either alone. Trional .65 gm. or .97 gm. (10 gr. or 15 gr.) with sulfonal .32 gm. or .65 gm. (5 gr. or 10 gr.) will usually give a very satisfactory night's sleep. In patients who are agitated, and in whom sleep is induced with difficulty, a dose of paraldehyde may be given immediately after the trional or sulfonal so as to start the sleep, which is afterward prolonged by the trional and sulfonal. If it be necessary to administer hypnotics for a long time, it is well to vary the administration of trional and sulfonal with chloralamid. Sometimes scopolamin or hyoscin combined with chloralamid forms a very efficient substitute. Hedonal has not, in Dercum's experience, proved a sufficiently powerful hypnotic. The bromids and chloral should be avoided. Morphin is but rarely necessary to produce sleep, other drugs sufficing. — ["Rest, Suggestion, and Mental Therapeutics," Blakiston, 1903.] — *American Medicine*.

CARBONATE OF CREOSOTE IN PNEUMONIA. — In the hands of J. A. Scott and C. M. Montgomery (*Therap. Gaz.*, Dec. 15, 1903) carbonate of creosote in pneumonia caused no irritability of the stomach and no disturbance of the urine. The degree of toxemia in all cases barring the fatal ones was mild and pseudocrises were

common, but bore no relation to the crisis or mortality. The mortality in 67 cases was 14.9 per cent., which does not corroborate the unusually low figures obtained by others, especially since equally low figures were obtained in the same hospital with other methods of treatment. The study of the clinical effects of carbonate of creosote should be continued, the dosage should be increased and the effect upon the toxemia carefully watched.—*Medical News*.

**TREATMENT OF BURNS.**—Dr. M. Capurbano uses a solution of tannin in glycerin for the local treatment of burns and scalds. The solution is used in the strength of fifty per cent. and the glycerin must be pure. The bullæ are punctured and gauze soaked in the glycerotannate is applied. The solution is again applied several times daily without removing the gauze, until the new epidermis is formed and the gauze falls off. In burns of the third degree, the destroyed tissues are removed, so far as the part will permit, and the application is made in the same way. In this mixture the glycerin, as well as the tannin, is important, as the tannin alone cannot heal a burn.—*N. Y. Med. Journal*, from *Gaz. degli ospedali*, Sept. 13, 1903.

**POISONING WITH ASPIRIN.**—Dr. Andrea Borri reports (in *Gaz. degli ospedali*, Sept. 13, 1903, as quoted in *N. Y. Med. Journal*) the case of an army officer, aged twenty-nine years, who had received three grammes of aspirin divided into five powders, and within fifteen minutes after taking the first powder was seized with malaise, noises in the ears, dyspnœa, vertigo, and vomiting. Soon there appeared an extensive and well-marked eruption of urticarial character over his body, and the lesions were both large and numerous. A marked œdema of the head and neck appeared, the eyes closed, and the tongue became swollen. The temperature was slightly subnormal and the pulse 150 filiform. Under the use of stimulants hypodermic-

ally the patient recovered in five hours. The phenomena of this poisoning were those of acute intoxication with salicylic acid, and it is probable that the molecule of aspirin is not so stable as is asserted, and that under some conditions it decomposes. The author found that aspirin was decomposed not only in gastric, pancreatic, and intestinal juices, but also in saliva, and even in water. In this case, absorption took place from the stomach, because the symptoms came on so quickly after ingestion. The amount of salicylic acid in the molecule of aspirin is small and it is probably the peculiar union of this acid with acetic that renders its effect so toxic in these cases.

**INTRACTABLE TYPHOID HEMORRHAGE SUCCESSFULLY TREATED WITH ADRENALIN.**—B. Graser (*Muench. Med. Wochenschr.*, July 28, 1903).—In a case of typhoid hemorrhage in which the bleeding steadily continued in spite of all efforts to check it, the desired result was promptly obtained after the administration of adrenalin. Thirty drops of the commercial solution were given every three hours. There were no ill after-effects.—*Inter-State Medical Journal*.

**THE EFFICACY OF SO-CALLED OXYTOXICS.**—O. Bachmann (Inaugur. Dissertation; rev. *Centralbl. f. Gyn.*, No. 41, 1903).—The author records the results of a series of experiments made in the Maternity of Breslau concerning the use of ergot and quinine in cases of uterine inertia. In one hundred and fifty-five cases quinin. sulph. was administered in seven-grain doses, two doses within ten minutes; if result not satisfactory, one or two more capsules were given. The result was satisfactory in ninety-one instances, unsatisfactory in sixty-four. In twenty-six cases ergot was administered by means of hypodermic or intramuscular injection (four to five grains *pro dosi*). Result: Satisfactory in nineteen, negative in seven cases. The diagnosis *inertia uteri* was made (1)

when the uterine contractions were distinctly weak; (2) when within several hours a visible progress of labor could not be noticed.

Distinctly different from this form of inertia are the cases in which a patient, after a long, tedious labor, with good uterine contractions, becomes completely exhausted. In these instances a subcutaneous injection of morphine (gr.  $\frac{1}{6}$  to  $\frac{1}{3}$ ) will give good results.—*Inter-State Medical Journal*.

**COLCHICINE IN GOUT.**—Ranson, in the *Medical News* of June 13, 1903, in a careful consideration of the use of colchicine in gout, concludes that its active principle, colchicine, contains all the virtues of the drug, and less of its disagreeable features, besides being more constant and reliable in its action. He quotes Dr. Gardiner as saying, "Colchicum never more effectually relieves the patient than when it acts silently and peacefully without producing any evacuation whatever, or in any way disturbing the patient's comfort and ease."

He also believes in continuing the use of the drug in the intervals between attacks, believing this to be beneficial and in no way objectionable, despite a prevalent belief to the contrary (in which opinion of his we emphatically concur), as the result of an extensive experience with the drug. Nor has the doctor ever noticed the acquirement of tolerance from the drug or its continued use, nor observed any cumulative effects, nor have we. Not only has he failed to notice objectionable effects from its use in kidney disease, but he has often observed an improvement in the renal condition during the use of this drug. In this we also concur. He has especially noticed a marked diminution in the albumin content during its use.

He does not presume to say how colchicine acts in gout, and claims that reliable investigation has shown its good effects not to be logically attributable to the causes ordinarily assigned.

He says we must be content to use it without understanding its *modus operandi* so long as we know that it is effective.—*Medical Council*.

## Book Notices.

**The Blues; Splanchnic Neurasthenia. Causes and Cure.** By ALBERT ABRAMS, A.M., M.D. (Heidelberg), F.R.M.S. Consulting Physician Denver National Hospital for Consumptives, the Mount Zion and the French Hospitals, San Francisco; President of the Emanuel Sisterhood Polyclinic, etc. 1st Edition, with 27 illustrations. Cloth, \$1.50, E. B. Treat & Co., 241-243 W. 23d St., New York City, 1904.

This excellent little book, which like its title, is bound in blue, is an admirable treatise upon Neurasthenia. It is one of the few medical publications that can be perused from cover to cover without the reader realizing that he is studying. The first five chapters are devoted to a general discussion of the various forms of nerve exhaustion (neurasthenia), with reference to the causes, symptoms, and a general nature of treatment. The last three chapters relate to that special form of neurasthenia which is most often accompanied by fits of depressions and which the author designates by that inappropriate title of the laity—The Blues.

In the treatment the author lays more stress upon exercise, hygiene, etc., than he does upon medicinal methods.

Dr. Abrams believes that the origin of Splanchnic Neurasthenia lies, in brief, in a congestion of the intra-abdominal veins, and bases his treatment on this theory.

The book is well printed, and should be a desirable adjunct to the library of any busy practitioner, and an absolute necessity to that of the nerve specialist.

**THE BOY'S VENEREAL PERIL.** By F. C. V. Reprinted from the *Four. of the American Medical Association*. 1903.

A brochure of 35 pages, written by Dr. Fred C. Valentine, of New York, read before the 54th Annual Session of the American Medical Association, July 4th, 1903, and now published anonymously for use of fathers, clergyman, or family physicians, to enlighten the boy on sexual subjects. Copies can be had from the author, Dr. F. C. Valentine, 31 W. 61st Street, New York City.



# The American Therapist.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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## Original Articles.

### *CROUPOUS PNEUMONIA.\**

By F. C. SIMPSON, M.D., Louisville, Ky.

An acute infectious disease, possessing a more or less typical course, caused by the invasion of the lung, by a variety of bacteria, chiefly the diplococcus pneumonia. It is characterized anatomically by a fibrous inflammation of the lung, clinically by a continued fever, by dyspnea and by a variety of symptoms due in part to the absorption of toxin from the diseased lung. The infectious nature of pneumonia was inferred long before the discovery of the micro-organisms, which have been found to be of etiological importance by the frequent typical course. Frankel and others have demonstrated that bacteria are always present in the exudation of pneumonia, and in about 80 per cent of all cases a definite variety of the diplococcus pneumonia is to be found.

Croupous pneumonia usually attacks the strong and hearty, rather than the feeble and weak, but both type of patients may be affected. It has distinct stages. Stage of onset, stage of consolidation, stage of absorption of the exudate, and convalescence.

You will be guided by state of patient's pulse, by sounds of his heart, and his general condition as to his strength as well as the degree of respiratory embarrassment which is present. Each case must be a law unto itself. It must be remembered that as croupous pneumonia is

an acute infectious disease, the patient may die not from pulmonary consolidation or cardiac distension, but from the malignancy of the infection.

One man with an entire lung consolidated may have slight evidence of general infection and toxemia; another with a small area involved may show a gravel toxemia and die in a very short time. We can therefore divide all cases of croupous pneumonia into three groups, those that are doomed to death by malignancy of the infection; those that are slightly ill, by reason of mild infection, and those that are between the two extremes that need the greatest medical skill to bring your patient to recovery. The first symptom of the affection of the lung is a chill; generally sudden, mild or severe irrespective of the course the disease will take. Shortly after the chill there is fever and thoracic pain unless the disease is deep-seated. The pain is usually referred to the nipple of the affected side, but may be located in the axillary region or in the back. Temperature usually rises rapidly after the chill, reaching 104° or 105°.

It usually remains elevated, with a slight morning remission and evening exacerbation until the crisis, which is usually reached on the seventh or eighth day. In a few cases the temperature falls gradually, reaching normal in a few days instead of a few hours. The persistency of high temperature beyond the time of the critical fall, argues badly. Cerebral symptoms are especially marked in alcoholic persons. Hence delirium appears early in abusers of alcohol. Age is a prominent factor in the causation of this affection, and suffers early childhood and old age to be measurably exempt.

\* Read before the Medico-Chirurgical Society, January 22, 1904.

*Treatment.*—If the patient is strong and robust, with a bounding heart, give him *veratrum viride*, by which he is bled in his own blood vessels. You must keep a close watch on the effects of this drug.

Since Dr. Van-Zandt's paper on the use of creosote in the treatment of pneumonia, I have been using creosotal or carbonate of creosote. Most authors give it in same dose as creosote. I use it in much larger doses, giving from 10 to 15 drops every 3 to 4 hours. I have had the best results from its use. It certainly improves the respiratory functions, and reduces fever. I have only lost one patient since I begun its use. It never seems to produce the gastric disturbances that creosote so frequently caused. When given early in the attack, the results are certainly marvelous. The temperature subsides, the respiration improves, and in the course of twenty-four hours the condition of the patient shows a marked general improvement. In later stages the results may not be so brilliant, yet very satisfactory. The cough, pain and temperature are very much changed, also the character of the sputum, and recovery very much hastened. The strength of the patient must be supported, the secretions and excretions must be looked after.

Dr. J. W. Frieser of Vienna, says: "The treatment of acute inflammatory affections of the respiratory passages with creosotal has yielded entirely satisfactory and even brilliant results in my hands. Both clinicians and practical physicians are fully aware that we formerly possessed no remedy that was half as satisfactory in its action upon pneumonic diseased processes. Our entire therapeutic armamentarium was symptomatic and expectant in its nature. But it is an unmistakable advance if experience teaches us the employment of a remedy which has an influence on the diseased process itself and possibly upon the specific organisms that cause it. The favorable effects of creosotal upon croupous pneumonia, have been observed by a number of others as well as by my-

self; and they are undoubtedly due to antiseptic and antibacterial action of creosotal when introduced in the body in sufficient quantity and in innocuous shape. Besides this it has a favorable influence on the heart and the patients' general condition. It causes, as I have often noticed, a rapid fall of temperature and retrogression of the local symptoms. The gastrointestinal canal is in no way injured by its use. In some cases the inflammatory processes in the lung get well with such extreme rapidity that the method might be called an abortive treatment. The temperature rapidly sinks to normal, the general condition noticeably improves, the tongue clears and becomes moist, the appetite returns; the action of the drug was reliable and the recovery of patients rapid."

I have had similar experience with the drug in a number of cases of croupous pneumonia.

Only recently have I seen the very rapid effects of the drug; the disease running a rapid course and resolution taking place on the fifth day, convalescence at the end of a week. I certainly think we should use creosotal in all cases of pneumonia. Two things are claimed for the creosotal treatment: In the first place it cuts short the disease in a most remarkable manner. Secondly, it causes complete resolution of the disease focus, the lung clearing up very promptly and no detail being left to cause a tedious convalescence.

*ESCOQUININ.*—Dommer describes the results of the use of a new form of quinin, made by combining a glucosid found in the horse-chestnut with quinin. The resulting salt, to which has been given the name *escoquinin*, is an amorphous yellow powder, almost insoluble in water and ether, but freely soluble in alcohol, and possessing a bitter taste. It is given in doses of 0.1 gm. to 0.2 gm. (1 gr. to 3 gr.), preferably in capsules. Dommer states that it is useful especially as an analgesic in neuralgia, migraine, rheumatism, and the like.—*Medicin. Wchnschr.; American Medicine.*

## POISONS AND THEIR ANTIDOTES.

By J. W. WAINWRIGHT, M.D., New York.

## GENERAL TREATMENT.

In case of suspected poisoning it is of the greatest importance that the stomach be emptied as soon as possible by emetics or the stomach pump or tube. The most reliable emetics are hypodermics of apomorphia  $\frac{1}{30}$  to  $\frac{1}{8}$  grain, or by mouth in solution zinc sulfate 10 to 30 grains, copper sulfate 2 to 5 grains, or tartar emetic 1 to 2 grains. Emesis may be aided by mechanical irritation of the fauces with the finger or a feather. If vomiting is not promptly secured through the use of emetics, the stomach pump or tube should be used except when corrosives such as nitric, hydrochloric or sulfuric acids have been used and the tissues are partly destroyed. In such cases an attempted insertion of the tube may result in perforation. Before inserting a tube in any case, and more especially in suspected poisoning, a careful examination of the mucous membrane of the mouth and pharynx should be made. When corrosive poisons have been swallowed the membrane will plainly show discoloration and eschars.

*In Cardiac Syncope*, give hypodermically, stimulants, such as nitroglycerin,  $\frac{1}{100}$  to  $\frac{1}{60}$  grain, strychnin sulfate  $\frac{1}{60}$  to  $\frac{1}{20}$  grain, or alcohol, and apply heat and friction to surface of the body, especially the extremities.

*In Narcotism*, keep the patient awake by causing him to move about; apply galvanic shock, flagellations with a cold wet towel, etc.

*In Threatened Asphyxia*, heat and cold alternated to the extremities, flagellation with cold wet towel, artificial respiration, forcible dilatation of the sphincter ani, inhalations of oxygen gas and atropin hypodermically.

## SPECIFIC OR INDIVIDUAL TREATMENT.

Acetanilid, Antipyrin, Exalgin, Phenacetin, etc.—Emetics, recumbent position, rest and stimulants by stomach or injection.

*Acid Acetic*.—Lime water, magnesia, chalk, baking soda, stimulants.

*Acids, Mineral, Nitric, Hydrochloric, Sulfuric*.—Chalk, magnesia, plaster from wall if nothing else at hand, emollient drinks, white of egg and fixed oils, pieces of ice to suck for retching. *Stomach pump or tube or carbonates contraindicated*.

*Acid Carbolic, Creosote*.—Any soluble sulfate such as Epsom (1-oz) or Glauber ( $\frac{1}{2}$ -oz) salt. Alcohol 2 to 6 ounces, milk, cream or cider vinegar, white of egg, morphin to quiet pain. Follow with emetics. Avoid oils.

*Acid Hydrocyanic, Cyanid of Potash*.—Fresh air, artificial respiration with cold effusions. Atropin  $\frac{1}{60}$  grain hypodermically.

*Acid Oxalic*.—Lime water, magnesia, soapsuds, chalk, tooth powder, sweet oil. *Never give ammonia by mouth or potash or soda in oxalic acid poisoning*. Stimulants such as strychnin or whiskey may be needed.

*Aconite*.—Emetics, stimulants, brandy, strychnin, ammonia, amyl nitrite inhalations, external heat. Keep patient flat on back.

*Alcoholic Coma*.—From whisky, brandy, wines, etc.—Empty stomach, give caffenin or black coffee, carbonate of ammonia. Apply heat to extremities and cold to head.

*Ammonia Vapor*.—Vinegar inhalations, lemon juice, demulcent drinks, fresh air, rest. Relieve pulmonary congestion.

*Antimony Tartrate*.—Vegetable acids, such as tannic; catechu, strong tea.

*Arsenic, fly poison*.—Freshly precipitated hydrated sesquioxid of iron, made by adding magnesia to any iron solution. 4 ounces of the magnum every 15 minutes until symptoms relieved. Morphin, fomentation, albumin, linseed tea.

*Belladonna, Atropin*.—Emetics. Physostigmin or pilocarpin. Cold to head, enemata, strong hot coffee.

*Cantharides*.—Emetics. Emollient drinks opiates by mouth and rectum. Large draughts of water to flush the kidneys.



*Cheese Poison.*—Ice Cream Poison.—Intestinal antiseptics, strychnin, brandy, ammonia, purgation by high enemas.

*Chloral.*—Hydrate—"Knockout Drops."—Any alkali, strychnin, brandy, coffee; hot bottles, artificial respiration.

*Chlorin Water.*—Albumin, white of egg, milk, flour.

*Chloroform.*—Fresh air, artificial respiration (with head inclined down, pull tongue forward), brandy, ammonia, hypodermics of tincture digitalis, 15 minim, or atropin  $\frac{1}{100}$  grain.

*Cocain.*—Brandy, amyl nitrite inhalation, ether, strychnin, digitalis.

*Colchicum.*—Emetics followed by demulcent drinks. If there is coma, brandy, ammonia and opium in large doses; maintain external heat.

*Conium.*—Emetics to be followed by stimulants and friction. Tannin or strong tea.

*Copper Sulfate, Verdigris.*—White of an egg, milk, flour, sugar; morphin hypodermically for pain, warm drinks to encourage emesis.

*Copperas* (ferric sulfate).—Baking soda, magnesia, milk, mucilaginous drinks, flour, sugar; morphin hypodermically for pain.

*Corrosive Sublimate.*—Bedbug Poison.—Albumin, white of egg, 1 for every 4 grains, flour, milk, or equal parts of lime water and milk. Stomach pumps or emetics promptly. Morphin for pain. Vascular stimulants.

*Croton Oil.*—Emetics, wash out stomach, follow with mucilaginous drinks containing opium.

*Digitalis.*—Recumbent posture after free emesis. Give strong green tea or tannin. Aconite in very small doses repeated if beneficial; brandy, nitroglycerin if pulse is of high tension. Clear intestines.

*Elaterium.*—Demulcent drinks, enemata of opium and external heat.

*Ergot.*—Emetics or stomach pump; strong green tea or tannin; nitroglycerin and stimulants.

*Fish Poisoning, Ptomaines.*—Intestinal antiseptics, purgatives and strychnin.

*Hyoscyamus.*—Stomach pump, emetics. Stimulants external and internal, physostigmin and pilocarpin.

*Illuminating Gas, Charcoal Fumes, Poorly Ventilated Apartments, Beer Vats and Choke Damp.*—Fresh air, atropin, oxygen gas, apomorphin, artificial respiration, saline injections.

*Iodin.*—Emetics, demulcent drinks, starch or flour mixed with water, opium and external heat.

*Iodoform* (to wounds).—Remove drug at once. Give stimulants, diuretics and warm baths.

*Lead Salts.*—Epsom salt,  $\frac{1}{2}$  oz. dissolved in water. Magnesia, dilute sulfuric acid 30 minims; milk, raw eggs, barley water. Stimulants for shock; morphin for pain, castor oil to purge; hot fomentations.

*Lobelia.*—Stimulants following emetics or stomach pump; external heat, tannin, strong tea.

*Muscarin* (Poisonous Mushrooms or Toadstools).—Tannin or strong green tea; atropin, strychnin, brandy, coffee, castor oil. Enemas.

*Nux Vomica, Strychnin.*—Immediate use of stomach pump, tube, or emetics, tannin, hot coffee, animal charcoal, chloroform or ether inhalations to control spasms. Chloral 30 grains in milk by rectum, repeated if necessary in 30 minutes. Bromids, atropin, morphin, tobacco enema. Amyl nitrite inhalation; valerian. Keep bladder empty. Give purgatives, avoid noise or confusion, darken room. Use artificial respiration during paroxysms and use ice to spine.

Very energetic treatment will be necessary to save patients if lethal dose has been taken.

*Opium, Morphin.*—Atropin hypodermically every 15 minutes for three doses; caffeine by mouth or rectum; ammonia, strychnin, amyl nitrite inhalations if threatened heart failure. Permanganate of potassium grain for grain of the poison. Wash out stomach with permanganate so-

lution, 2 to 4 grains to pint of water. Compel patient to move about; give galvanic shocks, flagellate body with cold wet towels. Use artificial respiration if indicated. Keep bladder empty.

*Phosphorous.* Rat Poison.—Sulfate of copper in emetic doses. Milk of magnesia after stomach is emptied. Albuminous and mucilaginous drinks; epsom salt, oxygen inhalations, alkalies.

*Potash and Soda Salts.* (Caustic Potash or Soda, Ammonia, Quicklime.)—Dilute acetic acid, citric acid, lemon juice, fixed oils. Morphin for pain, atropin for dyspnea. Milk, white of egg, barley water as demulcents. *Emetics and stomach pump contraindicated.*

*Silver Nitrate.* Lunar Caustic.—Solution table salt; emetics and demulcents. Morphin for pain; hot fomentations.

*Snake Bites.*—Inject solution permanganate of potassium at point of injury. Give olive oil freely and use stimulants.

*Stramonium.*—Same treatment as for Belladonna.

*Tobacco.*—Give emetic, use stimulants, strychnin and external heat.

*Zinc Salts.*—Lime water, soap suds; milk, white of eggs, warm water in copious draughts.

**SCARLATINA.**—Tobeitz, to prevent or cure nephritis, injects 1 c. c. of oil of turpentine into the outer aspect of the thigh and two days later give 25 drops by the mouth in capsule or emulsion. In severe cases he repeats the operation on opposite thighs on successive days.—*Medical Times and Hospital Gazette.*

**SALICYLATES IN CHOREA.**—Of course, there is nothing new in the statement that chorea is the rheumatism of childhood, but the corollary to this, that the salicylates are indicated in chorea, has not been applied. It is claimed, however, that the salicylates are more useful in the treatment of this condition than is arsenic. It is claimed by a few observers that from forty to sixty grains per day will show decidedly favorable results.—*Med. Council.*

## "LA GRIPPE," SO-CALLED: ITS TREATMENT.

By CHARLES G. CLARK, M.D., New York,  
Surgeon to New York Hospital House of Relief, Genito-Urinary Clinic.

At the present season of the year the general practitioner is kept busy with non-descript attacks of illness, which he, with the idea of giving some name to the disease, labels indiscriminately as "grip." That these attacks are far different and much milder than the genuine La Grippe there can be no doubt. The average patient suffers for one or two days and then is up and about his business again. Whereas, in the genuine La Grippe the patient is almost as sick in the medical mind as if he had a bona fide pneumonia and, beyond doubt, feels much sicker.

During the past month I have had daily calls to such cases, have found my patient with a temperature of 103° to 104° and suffering from pains all over the body and a severe cough, and, on calling the following day, have found my patient up and about, feeling much better. That this is not altogether due to the medicine prescribed, but chiefly to the mildness of the attack, there can be no doubt. Whether or not it is the genuine La Grippe from which New York suffered so much in 1895 I am not prepared to say. But if it is, then the infection certainly is not as severe.

The cough is perhaps the most aggravating feature of the case, after the pains have been relieved and the fever reduced. It often lasts for weeks after the patient is back to work. This is probably due to the changeable weather we have enjoyed of late and the lack of care which the average New Yorker gives to his own health. It is probably due to the prevalence of bronchitic affections that we had so much pneumonia this winter.

In the treatment of these attacks I have employed a more or less routine method. When first called, my first effort is to relieve the feeling of soreness which the

patient feels throughout his body and to reduce the temperature. For this purpose I have found the coal-tar antipyretics to be invaluable. The safest of these is phenacetin. It has less of a depressing action upon the heart than the others (antipyrin and acetanilid). The following prescription is a favorite and generally effective :

R Phenacetin  
Saloli  
Pulv. ipecac. et opii.....āā gr. iv  
M. et ft. pulv. tales no. viii. Sig. One q. 4 h.

The patient is of course put to bed, and if the bowels are constipated they are evacuated (preferably with calomel). The diet is restricted to milk and light broths.

For the cough which invariably accompanies these cases I have found that comparatively new alkaloid of opium (heroin) to be of great value. It allays the throat irritation and stops the itching or tingling sensation. It should be combined with some expectorant. A favorite mixture of mine is the elix. heroin et terpin hydrate or Heroterpin, as it is called. Each fluid ounce of this preparation contains 1-6 grain of heroin and 8 grains of terpin hydrate. The dose is from one to three teaspoons repeated every two or three hours. This quickly allays the irritation and loosens the cough.

The following cases, treated recently, may be of interest.

*Case 1.* Miss W., age 19. Came home from work January 18, feeling badly. Complained of pain in limbs and back and severe headache. First saw patient January 19. On examination found her temperature to be 104.2°. Has severe cough with number of dry râles. Throat is slightly sore and tonsils are hyperemic. Pain in limbs.

Diagnosis : La grippe.

Treatment prescribed : Phenacetin, salol, and Dovers powder āā gr. iv. One powder every four hours. Put patient to bed and gave ½ gr. calomel, to be followed by a saline in morning.

January 20. Temp. 102°. Pain better,

bowels moved. Cough still severe. Prescribed elix. heroterpin, in 1-dram doses every two hours. Continued powder.

January 21. Temp. normal. Patient feels all right, with exception of cough, which is much better.

January 22. Cough is almost entirely gone. Discharged patient, with instructions to continue the heroterpin until cough was all gone.

*Case 2.* Mr. J. B., aged 30. First called January 4, 1904. Found patient with a temp. of 103.5°, severe pains throughout body and a bad cough. Lungs show no sign of consolidation. Numerous mucous râles. Eyes and nose are watery.

Diagnosis : Grip.

Treated this patient in same way as *Case 1*, and in ten days the fever was down to normal and cough much better. Patient was able to return to work on January 7, 1904.

I have treated a great many cases of like character this winter, in the manner described, with almost uniform results. I have also used heroterpin with very satisfactory results in the treatment of the cough following pneumonia and in the broncho-pneumonia of children.

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PREVENTION OF IODISM.—Dr. F. Lesser (in *Deutsche Med. Wchsch*, Nov. 12, 1903, as quoted by *N. Y. Med. Journal*) says, that iodism results from the sudden overwhelming of the system by large quantities of alkaline iodides. The mucous membranes secrete this substance, and its sudden appearance in the body results in a catarrhal condition of the mucous surfaces. The prevention of iodism lies : (1) in the administration of iodine salts in mucilaginous substances, as these prevent their rapid distribution in the system. (2) In dividing the daily dose into many small doses. (3) In administering the drug by enema. (4) In substituting other drugs, such as iodide proteids and iodide fats for the alkaline iodine salts. (5) By iodipine injections.



*COLIC IN INFANTS.\**

By MARION MCH. HULL, M.Sc., M.D.,  
Chairman Medical Board of the Presbyterian Hospital in  
Atlanta, Pediatricist to the Sheltering Arms, etc.

The writer has been surprised to find, in a recent review of the literature, such a paucity upon this subject. Writers upon the digestive disorders of infancy have overlooked it in the consideration of another symptom, more dangerous, it is true—diarrhea. In 1783 Eberle published a book on the subject, which is hardly of more than historic value now. Then, not until Zinni wrote in 1887, was any article issued upon the subject. Modern textbooks barely mention it; and, so far as we can learn, there is not a modern article extant which deals with it exclusively.

Yet it is an important consideration. While not in itself dangerous to life, it may be the indication of an underlying condition that will become so. It certainly is distressing to its unhappy possessor, as well as to the baby's attendants. These are my reasons for presenting to this body so seemingly trite a subject.

Infantile colic is not a distinct disease, but merely a symptom. Yet when we note the regularity of the return of the paroxysmal pain at a certain hour of the day or night; when we recollect the persistence of its presence and the definite duration of many cases and the cessation after a certain time without regard to the medical treatment, we confess it almost merits the more dignified designation—disease.

We do not believe the percentage of infants affected can be stated. It occurs as frequently in the one sex as in the other. It is liable to occur at any period of infancy, but more often—we shall see why later—in the first month. There is a very generally accepted belief among the laity that if it begins then it must continue for either three or six months, more often the former. It is

more liable to occur in the breast-fed baby than in the bottle-fed baby properly cared for under modern principles. Indigestion in the latter class is more liable to be manifested by diarrhea.

There are two varieties, stomachic and intestinal. The first is characterized by violent pain in the epigastrium a short while after eating, and is relieved by eructating or vomiting. This lasts but a short time and is not liable to recur at regular intervals, although in some cases it does. The second variety is the more important; it is characterized by the occurrence at regular intervals, and at a definite time usually, of violent pain in the abdomen, causing the infant to cry out in a characteristic manner and to retract the limbs. There may be a cold, clammy perspiration of the face. The abdomen is distended with gas, but there is no tenderness at any particular part on pressure. There is no pyrexia; the tongue is clean. The stools may be normal, but are more apt to contain lumps of undigested casein, or else they are very acid. Constipation is the rule rather than diarrhea. Quantities of gas are passed by rectum, each time giving temporary relief. The attack lasts until the bowels move freely, or until all of the gas is expelled. The baby usually fattens in spite of all the evidences of indigestion.

The cause of this condition has been variously assigned, cold feet being one spoken of by a prominent pediatricist of another country. The stomachic variety is usually caused by an inadequate supply of milk, the infant swallowing air in its efforts to draw enough milk out of a practically empty breast. It is sometimes caused by the very opposite of this condition, a superabundance of milk, the infant's stomach being distended with air in its efforts to keep pace with the rapidly flowing milk.

The intestinal variety is caused practically always by the improper quality of the food. It is sometimes the carbohydrates that are in excess; more often it is

\* Read before the Tri-State Medical Society of Alabama, Georgia and Tennessee, October 13, 1903. Reprinted from *Southern Medicine and Surgery*, January, 1904.

an excess of the proteids. The former is not probable in breast-fed babies, since the proportion of carbohydrates in breast-milk is practically uniform at all periods of lactation and under all conditions. Anything in the mother that will impair the quality of the milk will produce indigestion in the infant, which is manifested more often by colic than by any other single symptom. Under this has been found to be included worry, late hours, overwork, lack of exercise, indigestion, anemia, and unrepaired injuries to the reproductive tract, with their consequent drains upon the nervous system of the mother. In 1890 Rotch reported a case in which French shoes worn by the mother caused colic in the baby, which was relieved by a change to a more comfortable pair of shoes. Any severe emotional disturbance in the mother, especially if long continued, will cause colic in the baby. We have a case at this writing in which the mother lost a child of scarlet fever eleven months ago. Her grief and subsequent pregnancy affected her general health and left her very anemic. Since her child was born five weeks ago she has not ceased to worry over it, fearing some illness will take it from her. An examination of her milk showed an excess of proteids, causing the baby's colic.

Too frequent feeding will also cause colic, not because the baby is not able to digest the increased amount of food that is given it, but because the quality of the milk is changed, thereby increasing the proteids and fats from 25 to 50 per cent. above the normal.

The diagnosis of the condition under consideration is not attended with any difficulty. Usually it is made by the mother before the physician is called. It is well, however, to bear in mind the disease conditions that are manifested by colicky pains in the abdomen that have to be eliminated in the differential diagnosis. The history of the recurring attacks of pain in an otherwise healthy and growing baby will largely overbalance the possi-

bility of any acute inflammatory process, while the absence of fever and severe prostration and the immediate relief that comes with the passage of gas from the bowels would eliminate any such condition as intussusception. The colicky pains that occur in an acute or chronic intestinal catarrh would be overshadowed by the more alarming diarrhea, and thus this condition not be considered.

Before considering the treatment, let us recall the main features of the infant's digestion and the results of the analysis of mother's milk as the basal elements in the rational treatment of this condition.

The infant's stomach being a mere dilatation of the alimentary tube, and being upright in position and the sphincter being very poorly developed, the food is not retained in the stomach very long, but passes into the intestinal canal very little digested. Here the fats are emulsified and absorbed, the small undigested residue acting as a natural laxative. The carbohydrates are converted by the pancreatic juice and absorbed, while the proteids are still further acted upon by the comparatively feeble pancreatic juice. Should the proteids be in excess or in a form not easily digestible by this fluid, these undigested masses would remain in the intestinal canal, acting as mechanical irritants and cause colic thus, and by fermentation and putrefaction from too long presence there.

As to the breast-milk: numerous analyses have shown that during the first month it contains from three to two per cent. of proteids, from three to two per cent. of fat, and from six to seven per cent. of sugar. From the end of the third to the ninth month of lactation the proportions are approximately one, three and six per cent. of proteids, fats and carbohydrates, respectively. After the ninth month the proteids and fats decrease and the quality of the milk is not sufficient for the demands of the growing child.

Bearing these things in mind, it is easy to see why colic should begin in the first

weeks and continue for three months without regard to the medical treatment used. The rush of blood to the mammary glands throws an excess of proteids in the ducts, the glands during the colostrum period being both secretory and excretory. The excess of proteids thus caused is not easily overcome until toward the end of the third month of lactation. The feeble digestive powers of the infant are not able to cope with this excess, and since most of the food is digested in the intestine, masses of undigested proteid are left there and cause colic by fermentation and by mechanical irritation.

Now, knowing the cause to be usually an excess of proteids in the milk, and knowing the conditions operative in creating this excess, we are in a position to intelligently consider the proper treatment to adopt.

Just a word as to the treatment of the stomachic variety: If the cause is a deficiency of the milk supply there is but one thing to do; try to increase the supply and, failing in this, supplement the deficiency by a properly modified cow's milk. If the cause is a superabundance, have the mother make the baby nurse more deliberately.

The immediate treatment of a case of intestinal colic should be a laxative, preferably castor oil, to clear the intestines of the offending material. Hot stupes should be applied to the abdomen, some carminative given if necessary and, if relief is not obtained in a few minutes, an enema of hot water and turpentine (one drachm to the quart of water) should be given to facilitate the passage of gas.

To prevent the recurrence of the attacks and thus cure the condition, the infant's diet should be carefully examined. If the baby is being artificially fed, its diet should be so changed as to put it on a lower percentage of proteids, and, if necessary, a lower percentage of sugar. Recently we had a case in an infant four weeks old who was using a modified cow's milk of the percentage composi-

tion: .75 per cent. proteids, 2 per cent. fat and 6 per cent. sugar. Cutting down the proteids below the .50 per cent. did not relieve the condition entirely, so the sugar was cut down to 5 per cent. with gratifying effect. In breast-fed babies it has been, and is, our custom to obtain a specimen of the mother's milk. We ask for two ounces of the middle milk. This is examined as suggested by Holt in a paper in 1893. Having ascertained the excess of proteids we inquire into the mother's condition causing it and direct her along the lines that will overcome it. If she has been nursing the baby at two-hour intervals we have her lengthen them to two and a half hours, or three-hour intervals. If she has been eating starches and little meat, and getting no fresh air, we direct her to eat more meat and take a two-mile or a three-mile walk in the open air, exercising daily almost to the point of fatigue. If she has been worrying or fretting, keeping late hours, or living an excited life, we direct her to so regulate her engagements that she may lead a quiet life mentally and physically. If she is anemic, if she suffers with indigestion, if she is debilitated and neurasthenic, we try to correct these. In short, we seek to put the milk machine in good working order so that the quality of the output shall meet the demands of the consumer.

While this is being accomplished the excess of proteids may be temporarily diminished by giving the baby a little water just before or in the middle of the feeding. Treatment directed almost entirely to the mother will thus suffice in the vast majority of cases to effect a cure without having to further upset the baby's digestion by giving it any of the long list of nauseous drugs that are ordinarily employed more or less empirically. In some cases there must be some treatment given the baby, too. If the child is constipated, thus aggravating the condition, a half teaspoonful of gravity cream or a small quantity of cod-liver oil given just before each nursing will have a very happy effect



on the bowels, and thus aid the other measures. A few infants whose indigestion is of long standing may require the assistance of some digestant for a while until the quality of the mother's milk has been changed, but ordinarily this will not be the case.

#### CONCLUSIONS.

From the foregoing considerations we draw the following conclusions:

1. The examination of the breast-milk should be a routine measure in every case of indigestion in the infant.
2. The mother should be treated, not the baby, ordinarily.
3. In feeding babies artificially a working knowledge of the percentages of the different ingredients of the food is absolutely essential to a rational care of the case.

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#### RECIPE—

R Chloral camphorat.....gr v  
Glycerinæ.....gr xxx  
Ol. amygdal. dulc.....gr x

M. Sig. Apply a little on absorbent cotton and place in ear.—*Jour. de Médecine*.

### PROPERTIES OF THE SYRUP OF IODIDE OF IRON.\*

By M. D. HOGE, Jr., M.D., Richmond, Va.,  
Professor of Pathology and Urinology, University College of Medicine, Richmond, Va., etc.

The syrup of the iodide of iron is a syrup of liquid, containing about 10 per cent. by weight of ferrous iodide, having a sweet, strongly ferruginous taste and a neutral reaction, with a specific gravity of 1.35.

It should be kept in filled bottles tightly stopped to prevent the decomposition of the iron by atmospheric oxygen and the evolution of iodine.

The practice of adding saccharine matter to ferrous iodide is adopted for the same reason and was used for this purpose as far back as 1840.

The dose of this medicine depends largely on the result desired, and is from five drops to one drachm, well diluted. Its incompatibles are those of iron and iodine generally, and owing to its peculiar nature it is best not combined with other drugs; and it should always be given after meals.

It would seem that when this preparation was administered chemically there would be formed in the stomach and blood the iodide of sodium and the albumate of iron, but this is probably not the case, as both iron and iodine have been found in the saliva and urine.

The syrup of iodide of iron is such an old and valuable remedy that I wish to call particular attention to its range of usefulness.

1. In the early stage of phthisis, if given in drachm does three times daily, it promotes the secretions, acts as a diuretic to some extent and the weight of the patient increases.

2. In the dry, rasping coughs and colds, which patients, with the advice of the druggists, have attempted to cure by tak-

\* Reprint from the *Virginia Medical Semi-Monthly*.

ing syrup of white pine or quinine and codeine, all the secretions tightly locked up, appetite gone and constipation troublesome, 10 to 15 drops of the syrup of iodide of iron every four hours will soon relieve the congestion and expectoration will be abundant.

3. In amenorrhœa and dysmenorrhœa in scrofulous women especially, the iodide has a most happy effect—the menstrual flow in cases of amenorrhœa often being soon established; the dose here indicated is 30 drops three times daily.

4. In anæmic patients suffering from chronic rheumatic gout, one drachm, given with pure cod liver oil, often proves of very great benefit.

5. In constitutional syphilis, where there is evidence of cachexia, the iodide is a valuable remedy.

6. Pale, strumous looking children, with enlarged cervical lymphatic nodules, associated with chronic catarrh of the throat or enlarged tonsils, are much benefited by the use of 10 drops of the syrup after each meal. It here acts as an alterative, rapidly bringing about an absorption of the swollen lymphatics, and is a true iron tonic, enriching the blood.

7. In cases of delayed resolution following croupous pneumonia, iodide of iron acts splendidly as a tonic and reconstructive.

8. It has been highly recommended in that troublesome affection of children, known as incontinence of urine; the dose is from 20 to 30 drops in water after each meal.

**HYPNOTIC MIXTURE.**—As a reliable hypnotic Dr. C. W. Canan, of Orkney Springs, Va., recommends in the *Medical Summary*:—

R Paraldehyde ..... 3 iv  
Mucilag. acaciæ..... 3 iv  
Syrupus amygdal..... 3 j  
Aquæ, q. s. ad..... 3 vj

M. Sig. One to two tablespoonfuls every two or three hours until the desired effect is produced.

## SELECTED PRESCRIPTIONS.

**ACUTE COLDS.**—The *Journal Am. Med. Ass'n* quotes: In cases of acute colds, accompanied by pharyngitis, the *Encyc. of Med. and Surg.* recommends an application of silver nitrate grains fifteen (1.00) to the ounce (30.) of water or the following combination:

R Glyceriti acidi tannici. . . 3ii 60 |

Sig. To be applied locally three or four times daily; or:

R Menthol..... gr. iii | 20  
Liq. petrolati..... 3i 30 |

M. Sig. Apply locally.

As an inhalation the following combination is recommended:

R Spts. chloroformi..... m. v | 30  
Menthol..... gr. iii | 20  
Tinct. benzoini co..... 3i 30 |

M. Sig. One teaspoonful to be floated on a pint of hot water and inhaled twice daily.

Internally the following is of service:

R Codeinæ sulph..... gr. iii | 20  
Glycerini  
Syr. simplicis, aa..... 3ii 8 |  
Sol. pot. citratis, q. s. ad 3iii 90 |

M. Sig. Two teaspoonfuls every 3 or 4 hours.

**PURGATIVE FOR PREGNANT WOMEN.**—Lutand, according to *Journal de médecine interne*, for January 15, gives:

R Castor oil.... 30 grammes (1 ounce)  
Syr. of rhub... 20 grammes ( $\frac{1}{2}$  ounce)  
Alcohol..... 15 grammes ( $\frac{1}{2}$  ounce)  
Pepperm't oil, 2 grammes (30 m)

M. For one dose. *N. Y. Med. Journal.*

**BRONCHITIS OF CHILDREN.**—*Journal de médecine interne*, for January 15th, gives the following as an efficacious expectorant:

R Sod. benzoate, 2 grammes (30 grains)  
Powd. terpene. 20 centigr. (3 grains)  
Syr. of tolu... 30 grammes (1 ounce)  
Syr. of acacia, enough to make  
120 grammes (4 ounces)

M. Take the whole in 24 hours.

*N. Y. Med. Journal.*

**ULCERATION OF THE CERVIX.**—Lutaud, in *Gazette de Gynécologie*, for November 1, 1903, advises:

R Iodoform..... 40 grammes  
Salicylic acid..... 10 grammes  
Bismuth subnitrate..... 10 grammes  
Camphor..... 5 grammes

M. Apply directly to cervix. The camphor masks the odor of the iodoform.

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## Editorial.

### GLYCEROPHOSPHATES.

Lecithin which is present in a series of organs, and especially in the tissues of the nervous system, and which appears to play a great role physiologically in the activity of these organs is to be comprehended as an ester of cholin—oxyethyl-trimethylammonium hydroxyd with the distearyl glycerinphosphoric acid.

According to the studies of Dawilewski, lecithin when fed to animals causes a strong increase in the red blood corpuscles and thus promotes the growth of warm blooded animals. If lecithin is fed to certain animals of the same litter, while none is given to the balance—other conditions being equal—the lecithin animals surpass their fellows in weight and are more strongly built. The high spirits and physical precocity of lecithin-dogs is remarkable. According to Dawilewski lecithin also exerts a stimulating influence over bioplastic processes, which is related to the increase in the erythrocytes and hemoglobin, and the direct action of the remedy upon the developing brain. By reason of this peculiar action of lecithin, glycerophosphoric acid, a cleavage-product of lecithin, which is applied in the organism to the building up of lecithin has been introduced into therapy. Lecithin is decomposed by digestion with giving off of glycerophosphoric acid; hence, the

advisability of administering the latter which is readily prepared, in place of the high-priced lecithin, which is hard to manufacture.

Certain authors, however, maintain that glycerophosphoric acid is not utilized in the organism to form lecithin, since it is almost completely decomposed into its two components, glycerin and phosphoric acid, by reason of its unstable character. Other investigators claim that a portion of the acid is applied in the body to the formation of lecithin and nucleins. Glycerophosphates are believed to increase metabolism and promote assimilation. It is not yet clear whether glycerophosphates as such are able to determine the peculiar action of lecithin, or whether they are decomposed and act as simple inorganic phosphoric acid which in turn promotes the formation of lecithin. In the latter case the therapeutic application of glycerin phosphoric acid and different combinations (calcium salts, casein and derivatives of albumin) would possess no advantage over that of inorganic phosphates.

AMYL NITRITE.—Cordero advocates the inhalation of three or four drops of amyl nitrite after the spinal injection of cocain, in order to counteract its depressing properties. He states that the pallor and cold extremities exhibited by patients submitting to spinal cocainization, indicates a vaso-constricting action; amyl nitrite produces a vaso-dilatation and thus counteracts it. After the administration of amyl nitrite the face becomes red, the pupils contract; this congestion of the head is to be kept up by giving a few more drops of the nitrite if necessary up to the maximum of twenty. In all, 27 patients received the inhalations and not one exhibited the usual after effects of cocain—severe vomiting and violent cephalalgia; nine cases were apyretic and only in two was there a rise of temperature (38°C). He recommends this procedure as a safe and reliable method of preventing the disagreeable and dangerous after-effects of spinal cocainization.



## Current Literature.

**THE TREATMENT OF EARACHE.**—Dr. Geo. L. Richards, in a paper read at the last meeting of the American Medical Association and reported by *Pediatrics*, advocates the use of a glycerole gelatin bougie in the acute earaches of children. Its formula is as follows:

|                      |            |
|----------------------|------------|
| R Carbolic acid..... | 7 drops    |
| Fl. ext. opium.....  | 6 drops    |
| Cocaine.....         | 3 grains   |
| Atropine sulph.....  | 3 grains   |
| Aqua.....            | 52 drops   |
| Gelatin.....         | 18 grains  |
| Glycerin.....        | 158 grains |

This makes 47 bougies. They should be kept in lycopodium or wrapped in tin-foil. Before using, the bougie should be dipped in water, then it will readily slip into the external ear and, dissolving, set free the anodyne.—*Southern Medicine and Surgery*.

**THE TREATMENT OF ANEURISM BY SUBCUTANEOUS INJECTION OF GELATIN.**—Guthrie Rankin (*Lancet*, July 11, 1903), advocates subcutaneous injections of gelatin in those cases which are beyond the reach of surgical aid, as a means of mitigating the pain and suffering of the patient and lessening the risk of sudden death from rupture. The cases of aneurysm of the aorta and one case of abdominal aneurysm are reported in detail, in which this method of treatment was very successful, completely relieving all pain and, in those cases in which the aorta was involved, greatly reducing dyspnea. In each case fifteen to twenty injections of thirty grains of gelatine in 100 c.c. of sterilized salt solution were given at the inner aspect of the thighs alternately at intervals of two or three days. While the number of cases is too small to allow of definite conclusions, the results, so far as they go, tend to show:

(1) That gelatin injections may, with proper precautions for antisepsis, be given subcutaneously with safety.

(2) That they produce a marked and speedy decrease in all the subjective and

in some of the objective symptoms presented by internal aneurysms.

(3) That this relief of symptoms is only explainable on the theory of a diminution in pressure effects from shrinkage in size of the aneurysmal sac.

(4) That this diminution in size, accompanied with marked increase in the resistance of the tumor wall, was capable of demonstration in three of the cases treated.

(5) That the after-histories of the patients afforded evidence that probably the beneficial results were permanent.—*Yale Med. Journal*.

**CASTOR OIL IN TYPHOID FEVER.**—Dr. C. C. Bass, of Columbia, Miss., reports his experience in the treatment of typhoid fever with castor oil. He reports eight cases in which diarrhea, delirium and tympanites were prominent symptoms. All were treated by a dose of castor oil. The author says:

"I think any physician will be pretty thoroughly convinced after trying it in one case. Take any case, the severest you may see, and give him a dose of castor oil every morning and no other medicine whatever. The dose should be large enough to act in four to six hours and should range from two teaspoonsful to two tablespoonsful, according to the condition of the bowels. Keep an accurate record of the temperature and you will be convinced. At any time during the course of the fever withdraw the oil, and both you and your patient will be convinced. Float the oil in sweet milk in a hot cup and there will be no objection to the taste. It is not very objectionable, however, to typhoid patients, as their sense of taste is very dull."—*N. Y. Medical Journal*.

**SALIVA AS A THERAPEUTIC AGENT.**—Bergmann mentions four pathologic processes in which saliva is of decided benefit:

1. Throat affections, *e. g.*, simple catarrhal tonsillitis, scarlatinal and diphtheritic affections. In these affections saliva acts as a hygienic and therapeutic agent.

The former by keeping mucus membrane clean, the latter by moistening the inflamed areas.

2. Gastric Superacidity.—The alkaline saliva neutralizes the acids of the stomach. The salivary flow can be decidedly increased by permitting the patient to chew some substance, *e. g.*, gum. Ewald has shown that it requires 12 grams of sodium bicarbonate to neutralize .3 per cent. (3 per mille) of HCl, and Wagner proved that this would liberate a large amount of sodium chloride, which is a gastric irritant, and would further increase flow of HCl.

3. Obesity.—By removing liquids from the body the weight of the body can be reduced. The individual must chew some substance and expectorate the saliva produced. This method is less depressing to the circulation than is diaphoresis and reduces the appetite at the same time.

4. Edema and Ascites.—Leube demonstrated that through chewing and expectorating the saliva 400 to 1000 ccm. of fluid can be removed in one day. He considers this method more efficient than using drugs to increase the salivary flow.—*Die Therapie der Gegenwart*.—*Southern Medicine and Surgery*.

TREATMENT OF INFANTILE DIARRHEA BY SOLUTIONS OF GELATIN.—Weill, Lumière, and Pehu report most excellent results from the use of gelatin in the diarrhea of infants. Chemically pure gelatin is taken and dissolved in ten times its weight of boiled water. The solution is then sterilized in an autoclave at 120° C. for a half hour. The solution is then tubed, putting 10 cubic centimeters (representing 1 gram of gelatin) in each tube.

The contents of one tube are then added to each bottle of milk given to the infant. In this way 8 grams of gelatin may be given a day, although they have used 12 or even 14 grams. The good effects of the treatment are seen very soon. The number of stools diminishes, they become more solid, and lose their

green color and offensive odor. The general symptoms improve rapidly—often after four or five tubes.

The medication finds its clearest indication in cases of dyspeptic diarrhea without organic lesion. In true cholera infantum good effects were not obtained.

The gelatin appears to have a direct effect upon the coagulation of the milk and upon the intestinal secretions. The fermentative and putrefactive processes are stopped, perhaps by a purely physical process, as some experiments outside the body would seem to indicate.—*Interstate Med. Journal*.

A MODIFICATION OF TWO CLASSICAL ARSENICAL PREPARATIONS. — M. Danlos (*Revue française de Méd. et de Chir.*; *Centralblatt f. d. ges. Therapie*, No. 12, 1903) says: In general, larger quantities of arsenic are borne by the organism when given in the form of "Asiatic pills" than when given as Fowler's solution. The only objection to the former lies in the fact that old, hard, Asiatic pills may sometimes pass through the digestive tract without being disintegrated. Instead, therefore, of the usual formula of the French pharmacopœia:

R Acid. arsenios.....0.5  
Pulver. nigr.....5.0  
Gummi arab.....1.0  
Aq. q. s., m., f. pilul. No. C.

the writer prescribes:

R Acid. arsenios.....0.5  
Glycerini.....3.0  
Pulv. nigr. porphyris.....5.0  
Pulv. gentian, q. s., u. f. pilul. No. C.

This formula has the following advantages: (1) the arsenic being dissolved in glycerin is finely divided; (2) the same reason lessens its irritative effect on the mucous membranes; (3) the pills remain fresh a long time.—*Interstate Med. Journal*.

DELIRIUM TREMENS.—J. R. Clemens, in the *N. Y. and Phila. Med. Journal*, October 10, summarizes the treatment of this condition as follows: An essential point is to get the patient to take food, and if old or weak, or if the attack is severe, the

author gives whiskey or brandy for two reasons, (1) as a bribe to get him to take food and (2) as a stimulant to the heart, which is weak, while a further advantage consists in combating the insomnia so constantly present. Milk, raw or peptonized, is given every two hours, alternating with strong beef juice. A dose of calomel is given at the outset, to be followed by an occasional saline. A bitter tonic, in which strychnin holds a place, is given, and if the first heart sounds become weak strychnin is used hypodermically. The room should be dark, cool and quiet. If insomnia is present a choice from the following will promote sleep; hydrobromate of hyoscin ( $1/200$  to  $1/100$  grain) hypodermically; sulphonal or paraldehyd by the mouth; opium and chloral hydrate are positively dangerous by reason of the probable condition of the heart and kidneys. The patient must constantly be kept under observation and, as the delirium may be secondary to the state of the lungs, treatment consists in keeping a constant ear to the heart and a finger to the pulse, exhibiting stimulants without restraint when necessary.—*Cleveland Medical Journal*.

CONCERNING THE UTILITY OF IRON THERAPY.—E. Biernacki (*Wiener med. Wochenschr.*, No. 18-20, 1903).—The writer has studied a large number of cases of various kinds of anemia, investigating not only the variation of the amount of hemoglobin during the administration of iron, but also the number of blood corpuscles and the amount of dissolved solids in the blood. His conclusion is that only in chlorosis is the administration of iron of real value. In other anemias little is to be expected from this therapy. In particular, that large number of neuropathic individuals who, though very pale and having many of the symptoms of anemia, show nevertheless no real impoverishment of the blood, is injured rather than benefited by iron medication. The widespread custom of prescribing iron in all cases of marked

pallor without ascertaining whether the condition of the blood demands such treatment, is earnestly to be condemned. When indicated, as in chlorosis, iron should be given in large doses. Small doses, as, for instance, in the use of chalybeate waters, serve no useful purpose.—*Interstate Med. Journal*.

PESSIMISM IN MEDICINE.—We often meet with individuals who, losing sight to some extent of the actual results achieved by medicine and surgery, are apt to deplore its limitations. The latter certainly exist, and in large numbers, yet the pessimistic attitude is one which commonly reveals in its possessor a mind lacking not only philosophy but, only too frequently, an undeveloped knowledge. We hear some deplore the fact that a few specifics only are known in therapeutics, and that there is no royal road leading to the cure of pneumonia, typhoid fever, phthisis and other common diseases. But the conscientious student must recognize the fact that medicine is capable of a great deal in these conditions, and that enlightened care and deep study result in a larger number of fortunate endings to the diseases than when they are treated by the pessimist who, for lack of a specific, adopts a supine and agnostic position. It is because there are so few specifics known to our art that it is a noble one, requiring earnest thought and great judgment that are to be attuned to a myriad of varying conditions. We have never met with a man who "did not believe in drugs" who did not impress us strongly with the idea that he would pass but a poor examination in materia medica and therapeutics. The men who do not believe in surgery are much fewer in number, since in this branch of science it is more easy to put the fingers of the doubting Thomases upon the material evidence they seek. Whenever medicine and surgery become a matter of specifics and royal roads we will learn them from a catalogue; experience will count for little; judgment and keen



insight will be but little needed. That day may be a fortunate one for humanity, but until it dawns medicine and surgery will be a science and an art in which the loftiest capabilities of the human mind will be required in order to obtain the best results, and one in which the brave toilers and searchers will constantly outstrip those who have travelled the long road from Dan to Beersheba and yet pronounce it a barren one.—Editorial in *International Journal of Surgery*.

CARDIAC DRUGS.—O. T. Osborn, in the *Medical News* for September 19, states that the queen and peer of all cardiac tonics is digitalis, and the heart should rarely be slowed by digitalis below 60 beats per minute. If it is slowed beyond this point, or there is a feeling of constriction in the head, or there is a distinct reduction of the amount of urine passed in 24 hours, or the pulse becomes irregular, or there is nausea or vomiting, too much digitalis has been used, and it should be stopped. The conditions improved by this drug are those of chronic weakness from any cause, except when due to myocarditis or to fatty degeneration; also when there is poor vasomotor tone and in cases in which there is edema or exudations with no serious kidney lesions. The contraindications to the use of this drug are a high tension of the arteries, atheroma, a weak cardiac muscle from prolonged fevers, or from fatty degeneration, myocarditis and ordinarily a serious kidney lesion. Inflammation of the stomach or even severe dyspepsia should cause some other cardiac drug to be substituted. The best substitute for digitalis is strophanthus, and the indications for its use instead of digitalis are (1) when there is need of a cardiac tonic, and digitalis produces nausea, vomiting or too great an increase in blood-pressure; (2) when a cardiac tonic is indicated and the blood-pressure is already high; (3) when a rapidly acting cardiac tonic is desired; (4) when there is more nervous irritability and weakening of the

heart than actual muscular debility or incompetency; (5) children are very susceptible to the action of digitalis, and hence strophanthus is many times a better drug for them when a cardiac tonic is indicated. He believes spartein sulphate is not a substitute for digitalis. The indications for its use are irregularity and nervous irritability of the heart, especially when conjoined with general nervousness. He has observed that cactus, when an active preparation is used, will regulate the heart, quiet its nervous irritability and render large doses, or the constant use of strong cardiac tonics, often unnecessary. It does not cause increased cardiac muscular strength as does digitalis. Convallaria and adonidin have been to him unsatisfactory, while barium chlorid, although not much used, should be resorted to more frequently. Strychnin is so much and so well used as only to require the caution that we do not begin its use too soon in acute diseases, rather reserving it for an emergency. Caffein may be used as a cardiac stimulant at any time when such is required. It acts quickly to tide over a period of cardiac depression, but is not as quick in its action in acute collapse as a strong alcoholic preparation or the stimulation of ammonia. If much nervous excitability is present, other cardiac tonics or stimulants should be chosen.—*Cleveland Medical Journal*.

CHLORIN AS AN ANTISEPTIC. — Douglas Stewart gives the results of his experience with chlorin and other antiseptic agents. Taking mercuric chlorid 1-1,000 as a standard and anthrax as the germ, various preparations of chlorin have been found to make a good showing. The two best-known chlorin solutions are the liq. sod. chlorat. of Labarraque and the liq. pot. chlorat. of Javelle (Javelle is a mill, not a man). By omitting water from the Labarraque we obtain the well-known technic of washing soda and calx. This, with anthrax, gave six positive cultures out of six trials. It worked well, however,

against molds, gave quite as good results and did not attack the hands so much when one-third (by weight) of the carbonat. potas. was substituted for the carbonat. sodæ. To eliminate soap from our technic take a heaping teaspoonful of calc. chlorat., of table salt and of aq. ammoniæ, mix in a quart of cool water, bleach and cleanse the hands therein and they will often be sterile. Give special attention to the nails with powdered pumice, stick and brush. When properly performed, one should not get more than two positives out of twelve attempts, although this washing is merely preparatory. Rubber gloves boiled for fifteen minutes were placed on a sterile plate in the open air and two cultures made from them every three minutes. One showed both cultures positive on the second culture, *i. e.*, at the end of three minutes. The other glove took at 21 and 24 minutes. He knows of no methods in general use which will sterilize a vulva. All fail when tried at the bar of the culture media. Recently his advice to pregnant women is to daily wash the mons veneris and private parts with water two quarts, a heaping teaspoonful of calx, of salt, and a half teaspoonful of pot. carb. Let it dry on the skin. Without being too positive, with but three vulvas, one was sterile after the second washing, one after the sixth, and the third was confined too soon to determine.—Abstract from *Medical News*, Jan. 2, 1904, in *American Medicine*.

**YEAST TREATMENT OF GONORRHEA.**—Dr. M. Plén (in *Zentralbl. f. Gynækologie*, Nov. 28th, 1903, quoted by the *N. Y. Med. Journal*) reviews the recent literature and comes to the conclusion that the treatment with yeast is not specific, as Landau and Abrahams have alleged. In cases in which the yeast pencils were inserted into the vagina, gonococci could be demonstrated for many weeks after the beginning of the treatment, and in cases in which the germs had disappeared, a profuse mucopurulent discharge continued to

be present. In one case the introduction of the pencil into the cervix produced a bilateral pyosalpinx, evidence that the yeast is not capable of destroying the gonococci in their favorite resting-place.

**VALUE OF THE IRRIGATION TREATMENT OF GONORRHEA.**—Orville Horwitz concludes, in a paper in the *Therapeutic Gazette* :

Any one with a mind unbiased who will analyze the testimony offered both for and against the irrigation treatment of acute specific urethritis will, it is believed, feel justified in subscribing to the conclusions which follow :

1. The irrigation method of treatment will not abort acute specific urethritis.

2. It will hasten the terminal stage of the disease, which is prolonged and difficult to cure.

3. Chronic urethritis and involvement of the deep sexual organs are common sequences.

4. In many instances, in order to effect a cure in the terminal stage of the disease, the irrigations must be discontinued and other methods of treatment employed.

5. Irrigation should not be employed in the acute stage of specific urethritis.

6. Irrigation of the deep urethra by means of hydrostatic pressure is injurious in the majority of cases of acute gonorrhea, and is conducive to the development of complications.

7. Little or no progress has been made in the treatment of acute urethritis either in aborting the disease, lessening its duration, or preventing complication.

**COPPER IN SYPHILIS.**—There is a cachexia or condition of bad health which is not infrequently shown by old syphilitics, in which there are no focal lesions, and which is manifested by weakness. Arteritis, with its manifold symptomatology and the various spinal degenerations which frequently result from late syphilis, are perhaps the most unsatisfactory manifestations of the disease to treat. A. F. Price (*Med. Rec.*, Oct. 10, 1903), who is medical director in

the navy, has found that copper exerts a much more beneficial influence over these conditions than either mercury or the iodides. He points out the fact that those cases manifest a peculiar susceptibility to copper, and he knows of no other disease in which this sensitiveness to copper exists. He has tablets of copper arsenite, gr.  $\frac{1}{3,000}$ , which sometimes cause symptoms of prostration and collapse, even when given in dosage of only one per day. Great care must be taken at first till a tolerance is produced, and the drug should be frequently stopped for a few days. It is, therefore, a valuable diagnostic aid. After a dose of  $\frac{1}{600}$  gr. is reached the copper sulphate is usually given made up in pill form, with gentian. In acute syphilis the sulphate may be given in doses of gr.  $\frac{1}{3}$ , from the beginning, combined with mercury. He firmly believes that copper has a very helpful action, and may greatly improve early cases of tabes.—*Medical News* Jan. 9, 1904.

CHILDREN PREDISPOSED TO PHTHISIS.—McConaghy, in *Internat. Med. Mag.*, recommends, in the management of children predisposed to tuberculosis, that :

1. On rising, a glass of hot or cold water should be taken.
2. Breathing and other exercise in a well aired room.
3. A regular time for stool immediately after exercise.
4. Cold bath with vigorous rubbing, upward, of the body.
5. A play of one hour in the sunshine every day.
6. Encourage proper carriage of the body, chest upward and forward, abdomen drawn in and arms hanging loosely.
7. Cultivate habit of breathing on the street, and breathe through the nose.
8. Sleep on hard bed and without a pillow.
9. Limit the child's studies.—*Journal Am. Med. Ass'n.*

TASTELESS QUININE FOR INFANTS.—According to Borde, in *Gaz. hebdomadaire des Sciences Méd. de Bordeaux*, he mixes one part of quinine sulphate to eight parts of olive oil in a mortar, triturating it well until the quinine is thoroughly suspended in the oil. The quinine strength is 1 gr. to 27 minims. The oil is best given in a spoonful of milk, and may be followed with a little water. There is either no bitter taste at all, or it is so slight as not to be seriously noticed. It may be given as often as needed to produce the necessary effects.

TREATMENT OF HEADACHE.—H. R. Niles, Flint, Mich. (*Physician and Surgeon*, November, 1903): Hydrotherapeutic measures will be of service in giving tone to the circulation, stimulating elimination and for the soothing and tonic effect upon the nervous system. A suitable diet, proper hours for rest and recreation and in children the regulation of the hours of study and the hygiene of the schoolroom will all require attention.

In the headache due to autointoxication mercurial and saline purgatives, colon flushings, Turkish and Russian baths, and regulation of the diet will ordinarily be effective. Or, in other words, the relief of the autointoxication and the restoration of nerve tone will usually relieve the headache. In the same way the large class of headaches due to neurasthenia call for no special consideration as to the treatment. Temporizing measures will sometimes be required.

Headache due to arterial changes, impaired renal function, the infectious diseases, anemia, and the reflex causes usually disappear under appropriate treatment of the local condition.

In the symptomatic treatment, the immediate relief of the pain is the first consideration and Doctor Joseph Collins, in speaking of the remedies applicable to these conditions, classifies them under the following heads :

- (1) Drugs derived from coal-tar distillation possessed of analgesic properties—



phenacetin, acetanilid, salol, exalgin, and the like.

(2) Drugs that are plant derivatives acting principally upon the vascular system—caffeine, cannabis indica and opium.

(3) Mineral compounds, such as the bromids, acting principally upon the nerve cells and the salines acting upon the circulatory fluids.

(4) Antispasmodics and paralyzers of striped muscular fibers, such as ethereal substances and belladonna.

It is often necessary to combine remedies from these four classes. Speaking generally, it may be said that those of the first class may be relied upon to ameliorate the pain in all headaches except those due to inflammatory disease and pressure. Those in the second group are serviceable in headaches characterized by marked deviation of blood pressure, caffeine being the medicine par excellence in headache associated with lowered vascular tone and cannabis indica in those occurring with a pulse of high tension. The bromids have their chief use in epileptic headache and the salines are narrowly confined to the headache of auto-intoxication. The drugs of the fourth class are of use principally in headache associated with spasmodic and fatigued action of peripheral muscular apparatus. —*St. L. Med. Review.*

THE CONTAGIOUSNESS OF SCARLET FEVER.—The old idea that the contagion of scarlet fever is conveyed chiefly by the exfoliating skin, has of recent years been made a matter of doubt, especially since the publication of Aaser's work in Christiania (*Nord. Med. Arch.*). Out of 3,800 cases seventy-nine were infected from patients who had been discharged from the isolation hospital, where the average period of retention was nine weeks. That the hair played little part in carrying the contagion is shown from the fact that of the seventy-nine persons carrying infection, forty were boys whose heads had been shaved. Nearly a half of this infection-bearing

group had ceased to desquamate at least a week before discharge, and the rest for a longer period up to five weeks previously. Aaser thinks that the chief source of contagion is the discharge from the nose and the ear, and concludes that as long as there is an abnormal secretion the patient must remain isolated, and no patient should be discharged until the physician has satisfied himself by careful examination of throat, nose and ear that the secretion has ceased. —*Canadian Practitioner.*

THE STOMACH AND THE DIGESTION OF ITSELF.—Weinland, a young German physiologist, has shown that in the cells of the gastro-intestinal mucous membrane are certain anti-substances, apparently like antitoxins, antilyns, etc., which we have lately learned from bacteriology. These antipepsins and antitrypsins protect the stomach and intestine from the action of the gastric and pancreatic juices, and thus solve the old problem, "Why does not the stomach digest itself?"

Beginning with the tapeworm, he was able to isolate a substance which, when added to a mixture of fibrin and pancreatic juice prevented the digestion of the fibrin. Following the line of this experiment, he next isolated an antipepsin from the stomach and an antitrypsin from the mucous membrane of the intestine. The process of separation was readily accomplished, the anti-bodies being precipitated from solutions of the mucous membranes by various agents. —*Zeitschrift f. Biol. Vol. 43.*—*Canad. Practitioner.*

INHALATION OF FORMALIN.—Spengler recommends formalin inhalations in pulmonary tuberculosis and fetid bronchitis, prepared after the following formula:—

R Formalin.....m lxxv  
Alcoholis (absolute).....3 v  
Spiritus ætheris.....3 liiss

M. Sig. Place ten drops in a tumbler and take ten or twelve deep inspirations, the mouth being removed from the glass to exhale. The first inhalations should be superficial and the latter ones deep. Inhalations are made every other day at bedtime, and stopped after two weees, to be resumed in a few days and continued as before. —*Journal American Medical Association.*

## Book Notices.

**The Self-Cure of Consumption without Medicine**, with a Chapter on the Prevention of Consumption and Other Diseases. By CHARLES H. STANLEY DAVIS, M.D., Physician to the Curtis Home for Old Ladies and Children, Meriden, Conn. 8vo., 176 pages. Cloth, 75 cents. E. B. Treat & Co., Publishers, New York.

The author of this interesting and instructive volume takes the ground that consumption will be practically suppressed during the twentieth century, and that no person, not advanced beyond the second stage, should die of the diseases. With this sanguine view of the matter, he writes hopefully and advises conscientiously and definitely. His first chapter is statistical; then follow Causes, Heredity, Diagnosis, Treatment—the latter divided into eleven chapters. The Appendix gives his views on the prevention of diseases and a table on the nutritive value of animal and vegetable food.

It is a readable work, and likely to give and prompt new ideas to the physician who reads it through attentively.

**The Acid Autointoxications.** By Dr. CARL VON NOORDEN and Dr. MOHR. Authorized American Edition. Translated under the direction of Dr. Boardman Reed. Small 8vo., 80 pages. Cloth, 50 cents. E. B. Treat & Co., Publishers, New York; 1903.

This is the fourth in this series of interesting monographs on Diseases of Metabolism and Nutrition, the preceding volumes having been duly brought to the attention of our readers during the past year, namely, Obesity (I), Nephritis (II), and Colitis (III).

The American Editor calls attention to the fact that this is a field which has been hitherto little explored, but succinctly shows its importance in this abstract from the Preface: Physicians who treat chronic disease successfully must keep a close and intelligent watch upon the digestion, excretion and assimilation of their patients.

All such will agree with von Noorden, (1) that there are numerous forms or manifestations of self-poisoning; (2) that the acid forms are among the gravest of them; and (3) that those special perversions of metabolism, resulting in excessive production of oxybutyric acid, diacetic acid and acetone, which so greatly endanger diabetics, and also complicate at times other diseases more or less seriously, are of the utmost practical importance.

The physician who has the first three volumes of this series will be glad to glad to get the fourth; others will appreciate our suggestion that they write the publishers for information regarding the set.

**Howe's Handbook of Parliamentary Usage.** By F. W. Howe. Hinds & Noble, Publishers, 31 to 35 West 15th St., New York, 1904. 50 cents.

All of us, from the days of school debating society up to our latest experiences in medical societies, political organizations, or other parliamentary bodies, have endeavored to master the rules of Cushing's Manual, or some other similar authority. And, unless our experience has been exceptionally wide, we all possess but an insufficient, smattering knowledge of the subject, which will leave us in the lurch in an emergency. This little volume can be kept unobtrusively in your coat pocket, and when required can be held in one hand, opened in the middle, and afford an instantaneous index to every parliamentary question that may arise, giving and suggesting every rule or method of procedure wanted. It is a most ingenious work, and ought to prove indispensable to everyone having occasion to use a guide of this kind.

**THE INTERNATIONAL MEDICAL ANNUAL** for 1904 is published by E. B. Treat & Co., New York, and as usual is a thoroughly interesting and up-to-date compilation of the last year's progress in all branches of medical science.

# The American Therapist.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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## Original Articles.

### *THE ETHICS OF SUBSTITUTION.*

By GILBERT P. KNAPP, New York City.

The druggist, the gasman and the plumber are objects of a suspicion or substitution that is universal, at least, if it is not unkind. They are the Bad Men of the Grown-up Fairyland. In each case the commodity dealt in is one of which the public cannot judge, and it is probable that there is imposition practiced in such cases. It is certain that people look distrustfully at any service that must be paid for in good coin and accepted wholly on faith. There are individuals in all vocations of this special character who command respect, but they are the exceptions that prove the rule; and the fact is that pharmacy as a vocation suffers, at the present time, from a broadcast distrust.

This is due largely to the modern evil of substitution, which is the "race burden" to pharmacists whose aims are high. It is an age of substitution. The "just-as-good" argument is plied wherever competition enters into the sale of goods. But in the case of the pharmacist it bears a more sinister aspect on account of the indifference to human suffering implied; and the public must not be judged too harshly for basing its censure on generalizations of this kind, where it is incapable of forming a direct judgment and especially where so vital an interest is at stake.

The reaction is especially severe as against smaller druggists. To unthinking people only bunglers and small men are dishonest, the former from self-conviction

and the latter by an unconscious psychological process which thrusts upon small-folk generally the onus of justifying their place on the line. In a few conspicuous cases of "bungling" some large druggists have come in for a fair share of the burden, but it rests mainly on the others.

Our experience leads us to believe that the weight of blame is not properly placed. Human nature in the main is honest, and the small men, in every vocation, are numerically in excess.

In looking into the subject of substitution by druggists there appears to be presented at the outset a question as to the clear definition of the term.

What, then, is substitution; and as to the acts involved, is it just that this term—which is so used as to apply indiscriminately in all instances—should have become, in its present acceptance, a general synonym of reproach? Is it possible to distinguish, in any degree, between substitution as a vice, and certain acts or functions, so classed, which may not be discreditable, or which may, in certain exigencies, be more creditable than otherwise—where individuals are compelled to exercise discretion in the treatment of emergencies that are thrust upon them and which they are powerless to evade? Without a perfectly clear understanding of a term all discussion of it is useless, and in a case of this kind the citation of familiar examples of what, from the various viewpoints, comes under the meaning of the term, appears to be the simplest method of clearing the way.

*First:* It is a shameless deception that is practiced by certain pharmaceutical "Smart Chaps,"—either as a matter of conceit, or profit, or both. It does not



help Pharmacy to remark that there are fakirs in all spheres of activity.

*Second:* There are men who do not deliberately plan to be substitutors, who are weak-kneed and sometimes fall down. Such are the men who, when they are unable to supply the identical preparation that is called for, cannot "let go" of a prescription that has found its way into their hands. There are various sophistries by which a man of this type may find justification in given instances. The fallibility of human nature is unpleasantly indicated.

*Third:* Multiplication of stock is bound to result from an attempt to keep *all the makes* of all the kinds of pharmaceutical products. Druggists of limited means—and others who find a grievance in this fact—sometimes revolt. It may not be improper to temper justice with mercy, in imposing sentence in these cases. We have reached the place where good men begin to differ, and the question becomes one of comparative ethics from this point.

*Fourth:* There are occasions of certain kinds in which it seems incumbent upon druggists, on account of their intermediate position between doctor and patient, to exercise discretion. The proposition must be granted. And if this is true, in certain cases, a question arises at once as to how these cases are to be differentiated from others that are, or may—from certain view-points—appear to be a shade further removed on the ethical scale. There is no code or data to serve as guide in individual instances; no criterion of action; and yet *non-action*—in declining, for example, to dispense a morphine or nitroglycerine prescription because of inability to comply with a detail of "make" or "coating"—may approximate to criminal activity.

It may be granted, then, that there are cases in which the druggist owes a duty to society as well as to the doctor—where certain specifications cannot be precisely complied with and the need is urgent. To "turn down" a prescription, or to *hold*

it while a messenger is dispatched to a neighbor druggist or to the supply-house downtown, is in either case to inject the element of delay. A night-clerk, alone in a store, may have this problem to deal with. And, as to the question of *urgency*, what are the means at hand by which the druggist may make a snap diagnosis of this matter? The importance of haste may not be clearly indicated by the nature of the drug prescribed. And as between the alternative risk of presumption and stupidity—which action or non-action on the part of the dispenser may seem to imply—is it proper that his conduct in these cases should be guided by judgment or by set rules?

There is nothing fine-spun about these illustrations. The examples are commonplace, and if they appear strained, it is because we may have presented them with unusual minuteness in their bearings.

In all of these supposed cases we are assuming that the doctor's instructions are unobtainable. The busiest times for the dispenser are *after* the usual office-hours.

To the lay-mind of the dispenser it is also assumable that the drug is primarily "the thing," and that the brand, form, or style—designation is intended for the patient's benefit, in a secondary sense only, and not to be miscalculated into an obstructive factor.

The question has even a ludicrous aspect when looked at too circumspectly; as, for example, in a case where a prescription called for a "make" that was a sheer imitation (without modification) of an original formula which had been introduced successfully by a well-known firm. In this case the druggist could not supply the imitation product and substituted the original.

While this particular act might be condoned, perhaps, as a sort of justifiable suicide, the situation would not seem quite so clear if the druggist *had not been the possessor* of the original and had possessed, instead, another, and different, imitation of this same original; which

might easily have been the case, inasmuch as the product in question was "Listed" by every high-class pharmaceutical house. But there is no need to follow speculative leads. The facts, as stated, sufficiently indicate that the exercise of judgment cannot be honestly evaded in these cases, although it would be easier if dispensing could be made wholly a matter of orthodox routine. The spirit of fidelity, however, will not admit in all cases of being governed by iron-bound rules.

We wish to state our belief, parenthetically, that most doctors recognize the middle-ground of common-sense herein indicated; while it has been our unpleasant experience, as well, to learn that some do not. The point—which we shall reiterate for sake of emphasis—is that, in a matter involving possible dislikes or preferences, as to "brand" or "make," of which he may not be aware, the druggist cannot know just when he is safe within these bounds; and he is aware, also, on account of the feeling that exists about substitution, that his motives are always in danger of being misunderstood.

If only there could be a court of medical ethics in perpetual session, somewhere "on the 'phone," to handle these matters promptly in an official way!

\* \* \*

It would seem improper to conclude a paper on substitution without making reference to the chief instigators of the evil, *i. e.*, the manufacturers of substitute goods.

When a new product achieves success, the formula is added to the List of the pharmaceutical houses at a competing price. If the original formula is *not* published, a formula is devised to "fill the bill," which will imitate the product as closely as possible. By some houses the exploitation of these substitute articles—sometimes euphoniously called "bulk goods"—is conducted upon large and liberal lines. The men who sing their "legitimate" songs to doctors, "in tones as musical as is Apollo's lute," are the same individuals, in many cases, who offer

"bulk goods" to druggists in imitation of the successful specialty of a rival house.

The makers of these fabrications do not "utter" them, in the legal sense of the term, and therefore have been able to enjoy the profits without the risk. The facilities of their laboratories are employed to devise these products and offer them in the best style, at an alluring price. From that point it is a question of salesmanship. And they are good fellows, these salesmen! They work hard. Their success represents, largely, the force of the personal equation, rather than the desire of their customers to "load up" with goods of this class. The temptation, when presented in all the semblance of a "business proposition," is sometimes strong, and if yielded to—the goods are not likely to be thrown away.

The scheme of this campaign of substitution, and its development into an industry, is built on what is probably regarded as a very sensible gamble, that the minds of many pharmacists are at or near the breaking point concerning the increasing tendency of physicians to write for fractional quantities of articles that must be bought in original bottles, whereof the manufacturers' profit consists largely in the unsold increment that grows and tarries on the druggists' shelves,—a wholly indefensible proposition, morally, from the druggist's standpoint, but one on which the salesman can offer much sympathetic and dangerous advice, especially if he represents a house of "character and standing in the Trade."

\* \* \*

To whatever extent the evil of substitution is practiced, in its gratuitously evil sense, it may be said to be chiefly in relation to pharmaceutical articles of the *proprietary* class, and in the dispensing, therefore, of "bulk" goods, which may be "the same," or "as good," but are certainly not in accordance with the specification. The moral problem is hardly involved; it is solely a question of cupidity—insidiously aroused and helped along

by the persuasive salesman of the manufacturer.

These are some of the points that appear to merit consideration. We have endeavored to place them in a certain order with reference to the degree of ethical responsibility involved. A discriminating censure, inspired by an ordinary sense of fairness, may be applied with proper force in each case.

### *SOME NOTES ON THE USE OF HYOSCINE.\**

By HENRY S. NOBLE, M.D.,

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*Hyoscyamus niger*, a coarse, herbaceous plant, indigenous in England and naturalized in the United States during the early part of the century, has held a place, sometimes honored, and sometimes otherwise, in our pharmacopœia ever since medicine began to assume the dignity of a science. During the first forty or fifty years of psychiatry opium in its various forms, belladonna, stramonium, conium, and hyoscyamus comprised pretty much our whole armamentarium as far as sedatives and hypnotics were concerned. In the early part of the century there was in use in nearly all the institutions for the care and treatment of the insane a preparation known as "Todd's mixture," which was said to be a happy combination of sedative and tonic properties, and consisted of conium extract, iron, a bitter, and aromatics. This mixture was in common use in nearly all the hospitals for the insane in this country for a period of thirty or forty years, and is no doubt used somewhat even to the present day. Tincture and infusion of henbane, after opium, were the hypnotics upon which our fathers most relied. The close similarity between the action of this plant, belladonna and conium led to their being regarded as sub-

stantially the same in their effect upon the human system. In 1821, however, it was announced by Peschier that hyoscyamus contained an alkaloid which was capable of being isolated. Eleven years later, Geiger and Hesse succeeded in obtaining hyoscyamine pure. Later researches by Ladenburg proved that hyoscyamus contained two alkaloids, hyoscyamine and hyoscine.

We all recollect the amorphous product obtained from hyoscyamus, a dark, oily-looking liquid with an abominable odor, resembling, both in this respect and in appearance, the substance which we find in old, stale tobacco pipes. It was ascertained by actual experiment that this amorphous hyoscyamine was much more powerful in its action than the pure, crystallized hyoscyamine. This fact led to the suspicion that the amorphous product might contain another alkaloid which was left behind after the hyoscyamine was extracted, which, although more powerful, differed somewhat in its action from hyoscyamine. This was a little later proven to be true, and hyoscine was the result of the investigation.

In 1884, H. C. Wood made a careful study of the physiological effects of hyoscine. He found by experiments upon animals that it had a tendency to produce a general motor and reflex paralysis by depressing the motor centers of the spinal cord. The muscles and motor nerves themselves were not affected, nor indeed was the sensory side of the nervous system. The alkaloid has very little effect upon the circulation unless very large doses are given. The vaso-motor system is then paralyzed. On the heart itself hyoscine acts as a very feeble depressant, and differs from hyoscyamine in not paralyzing the pneumogastriacs.

The symptoms ordinarily produced on a man when exhibited in considerable doses are dryness of the mouth, flushing of the face, sleepiness, a feeling of giddiness or intoxication and, in some subjects, delirium. Respirations are slower,

\* Read at the Annual Meeting of the Middlesex County Medical Association, held at Middletown, Conn., April 24, 1900.—Reprint from the *Yale Medical Journal*.



pulse-rate is reduced, and pupils are generally dilated. The sphymogram shows the pulse slow and full, but with no alteration in its tension. If still larger doses are given, the mouth and throat become excessively dry, pupils widely dilated, and the voice hoarse from partial paralysis of the vocal cords. The surface of the body is suffused, and usually bathed in perspiration, muscular relaxation is pronounced, and loss of co-ordination is very evident. Paralysis of the pharynx and vocal cords has been noticed by several observers.

The dose to be employed is from 1-120 to 1-160 of a grain. It is said that no case of fatal poisoning is on record, although this does not by any means prove that none has occurred. Nausea, constipation, or other disturbances of the alimentary canal do not occur. Indeed, about the only disagreeable after-effects that follow moderate doses are dryness of the throat and occasionally headache. Although the drug is tasteless, it is probably more often administered hypodermically than by mouth. When injected its effects are manifested within ten minutes and last from six to eight hours. Individuals vary greatly in their susceptibility of the drug, so that it is always well to begin with a minimum dose, say 1-120 grain. Women are more easily affected than men, and the aged very much more easily than the young or middle-aged, as is usually the case with narcotics.

The diseases and symptoms, for the relief of which hyoscine hydrobromate has been used, are almost innumerable. It is, however, in nervous diseases and in certain forms of insanity that the most remarkable success has been achieved. In cerebral excitement, where insomnia results from a rapid flight of ideas, it does excellent service as a hypnotic, producing a calm, quiet sleep where the preparations of opium only intensify the excitement. In mania with extreme motor activity its effects are generally favorable.

L. C. Gray states that he has used it ever since it was introduced and that, for

certain purposes, there was no drug in the pharmacopœia that he could not better afford to dispense with. He gives 1-100 grain. It should not be given to persons whose general health is much below par, nor to the aged with atheromatous arteries, nor in hypertrophied and feeble heart, as alarming collapse is liable to follow. He speaks of sending one case of melancholia to Greenwood by hyoscine. He found it useful in some cases of chorea, and markedly so in paralysis agitans. If you are going to give hyoscine in a debilitated subject, see that he is well fed, and give in conjunction with it alcoholic stimulants and a grain or two of quinine three times a day.

It is, however, in mental trouble that Dr. Gray finds it most useful. In the insanities with excitement and hallucinatory symptoms, especially in the early stages, there is an excellent field for its employment. It renders the patient more manageable and has in many instances cut short the disease. Never give more than is absolutely necessary, and it is sometimes well to combine it with bromine.

He denies having observed any hypnotic effects from it, which is contrary to the experience of most observers, and is certainly at variance with my own. Where the heart is strong, a combination of hyoscine and hydrate of chloral has a most happy effect in calming excitement, lessening useless activity, and producing sleep. Hyoscine has been used to stop nocturnal emissions; 1-75 grain at bed-time arrests them completely. Dr. Robinson employed it for this purpose in one of the New York penitentiaries with complete success.

It is useful as a hypnotic where insomnia results from too great cerebral activity, where a succession of thoughts pass through the brain with great rapidity, or, as in a flight of ideas, where sleep is disturbed by urgent dreams. There have been instances where it seemed to exert a paralyzing effect upon the pharynx and vocal cords. One case was reported in

the *Boston Medical and Surgical Journal*, of a woman who had an alarming attack of suffocation, which was evidently paralytic and laryngeal, following the exhibition of a moderate dose. Another case reported in the same journal was that of a child suffering from scarlatina anginosa, where death ensued from suffocation an hour or two after receiving a dose. As paralysis of the pneumogastric nerve is claimed not to be one of the effects of hyoscine, the results in these two cases may need to be accounted for upon some other hypothesis.

It is rare that a drug has been introduced to the profession where there has been such a diversity of experience, or where the reports of observers have been at such variance regarding its effects. Physicians in the front rank of their profession have sent in reports of their observation of the effects of the remedy that are diametrically opposed to the conclusion reached by other equally competent and trustworthy investigators. As far as my personal experience is concerned I will say that I have used hyoscine ever since it first became known to the profession, and prior to that, both the amorphous and crystallized hyoscyamine. After so many years of constant use of the drug among the insane I confess I have formed certain opinions regarding it that I cannot change or abandon. My conclusions are as follows :

1. It is not by any means the case that all patients behave the same under its administration, nor is it every case that will be benefited. Among patients laboring under acute or recurrent excitement, two or three cases out of every five are benefited, and in the recurrent forms of insanity attacks of maniacal excitement are frequently averted.

2. Old people, and those whose general health is below par, are most profoundly affected by even very moderate doses of the remedy. It is therefore always imperative to begin in such cases with the minimum dose.

3. I have found the remedy just as efficacious by stomach as hypodermically, when used in the same doses, although the action is not perhaps quite as rapid.

4. A tolerance for the drug is not established except within certain limits. I wish also to say that, if, after gradually and cautiously increasing the dose up to about 1-60 grain, the desired effect is not obtained, it is entirely useless to increase it farther. In the use of hyoscine the toxic effects of large doses are to be avoided. They do no good, and even endanger the life and health of the patient.

5. Frequent doses are not required. I rarely give more than two doses in twenty-four hours. If you cannot accomplish the desired result by two, or possibly three, moderate doses, one in the morning and the others in the afternoon or evening, it is useless to repeat the dose more frequently, for you wish by all means to avoid poisoning your patient. Do not convert a remedy into a poison.

6. Hyoscine does act as a hypnotic, except in a peculiar way, wholly different from opium, chloral, cannabis indica, sulphonal, or paraldehyde. It produces sleep indirectly, by allaying cerebral excitement and morbid motor activity. Numerous combinations may be made with hyoscine. Hyoscine with bromide of potash and hyoscine and chloral are the two most commonly employed.

7. I have never obtained anything like curative effects from the use of hyoscine. I have, however, in numerous instances been able by its judicious use to keep cases of recurrent insanity and folie circulaire in the convalescent halls, which otherwise would have been obliged to spend fully one-third of their time in the excited wards. The plan usually pursued with these cases has been to give them, at the first intimation of approaching excitement, an active cathartic, usually a mercurial, and follow it by from 1-100 to 1-75 grain, never more, of hydrobromate of hyoscine morning and evening. It is

always desirable to avoid producing, by too large or too frequent doses, any specially unpleasant or disagreeable effects. It is quite unnecessary to do so, and, moreover, is apt to defeat the end which you have in view. I can recall cases of chronic insanity, which for many years have been subject to recurrent periods of maniacal excitement, but which have enjoyed uninterruptedly the comfort of the convalescent halls through the salutary effects of hyoscine administered in the manner just described. Previous to the employment of the hyoscine treatment frequent sojourns on some of the lower halls were quite unavoidable and took place with regularity. Sometimes I have thought that hallucinations of sight and hearing were relieved, and again that they were rendered worse, until I have finally come to the conclusion that it has little effect on these symptoms.

One advantage which hyoscine possesses over other sedative drugs used in the treatment of the insane is its tastelessness and the minuteness of the dose. We often meet with patients who, for various reasons, refuse absolutely to take any medicine whatever. It usually happens that they are also troublesome customers and require repressive medication, not only for their own comfort, but for that of their associates and physicians as well. Ten drops of the solution of hyoscine containing 1-100 grain, introduced surreptitiously into the patient's cup of coffee at breakfast, and again into his tea at supper, accomplishes the object "*tute, cito et jucunde.*"

I do not think that there are any indications to be fulfilled by the administration of hyoscine in melancholia. The essential features of the disease are mental and physical depression, which, it would seem, should preclude the exhibition of any agents of a depressing character. In the agitated, distressed, groaning, noisy cases, opium is better.

I stated in a previous part of this paper that favorable results might be expected

from the administration of hyoscine in from two to three out of five cases of mental disease where its use seemed to be indicated. I wish to supplement this statement by adding that, if in any case the desired results are not secured by the administration by mouth of two doses of 1-75 grain each in twenty-four hours, it is well to abandon its use, for nothing will be accomplished by increasing either the size or frequency of the dose. My own plan has usually been to begin with 1-100 grain at the intervals mentioned and increase cautiously to 1-75 grain, when, if I get no satisfactory results, I abandon the drug altogether.

In my experience the periods of excitement occurring during the course of general paresis are less amenable to control by hyoscine than the excitement of either chronic or recurrent insanity. Why this is so, I am unable to state, and do not know if the experience of others coincides with my own.

In addition to the uses of hyoscine already mentioned I wish to call attention in closing to one other, which I am sure you will find to be of practical importance. Many persons suffer excruciating agony from a spasmodic contraction or cramp in the muscles of the lower extremities upon retiring at night after having subjected the muscles to some unusual exertion during the day. Sitting for a long time in some constrained attitude, whereby the muscles undergo an unusual tension and become unduly wearied, is often sufficient to bring on the trouble, either at once, or a few hours later when the individual has retired for the night. Very often the misery does not come on until just as the person wakes on the following morning, and is in the act of stretching. It is most apt to occur in persons past fifty years of age. You will find that 1-120 or 1-100 grain of hyoscine given half an hour before retiring will entirely obviate the trouble and insure for you the lasting and heartfelt gratitude of any person who has ever experienced the agony of cramp before.



*THE MATERIA MEDICA OF PICHÍ.\**

By NOAH E. ARONSTAM, M.D., PH.G.,  
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Clinical Assistant in Dermatology and Venereal Diseases  
in the Michigan College of Medicine and Surgery.

*History.*—This drug has been used in the remotest times by the natives of Chili and the Argentine Republic as a remedy for vesical affections, accompanied or caused by gravel or calculi. Dr. Ramirez, of Valparaíso, who practiced from 1865 to 1885 in the small towns and hamlets of Chili, had ample opportunity for studying the medicinal properties of Pichi. In an extensive monograph on this subject he fully corroborated the claims of the natives. From then on the drug rapidly gained the confidence of the leading practitioners and syphilologists of this country and Europe. To a Detroit man belongs the credit of first introducing this drug to the medical profession; he is no other than Dr. Henry Rusby, who admirably described it in the *Therapeutic Gazette* of December, 1885. Part of the information furnished therein he obtained from Dr. Ramirez while traveling in Chili.

*Botanical Description and Physical Properties.*—*Fabiana Imbricata* Ruiz and Pav, or Pichi (pronounce Pechée) in the Chilian dialect, belongs to the natural order Solanaceæ, a class which also embraces capicum, belladonna and tobacco. It is a habitué of the dry, sandy, and rocky hill-tops of Chili, Ecuador and the Argentine Republic, looking very conspicuous in its almost coniferous appearance. It is the sole vegetation of those mountainous regions. It reaches a height of from fifteen to eighteen feet. The bark is thin, somewhat corrugated, and adheres to the golden-yellow wood. The upper branchlets are so crowded together as to form plume-like sprays. These branchlets are covered with violet leaves, which are broadly ovate, blunt, or rather rarely

pointed, thick, sessile and closely imbricated upon these branchlets. In length they vary between one and two lines. The base and margins of the leaves are whitish, caused by a covering of a resinous deposit. In fact, all tender parts of the shrub are covered by this exudation, which is a striking peculiarity of this plant. The whole shrub contains more or less oleoresin, especially is this the case in the smaller branchlets and the bark, where a great amount of resinous deposit can be found; the latter creates an impervious shield against the escape of moisture. The oleoresin ranges in color between green and blue. Every second year the terminal branches bear a solitary flower, with a tubular, purplish-white corolla. The flowering season ends about June. The fruit is two-celled and two-valved, having four flat, oblong, brown seeds, covered with hard testæ. The parts employed in medicine are the stems, leafy branchlets, and the leaves. The odor is terebinthinate and the taste peculiar, characteristic, somewhat pungent, bitter and aromatic.

*Chemistry of Pichi.*—The leaves and twigs of the plant yield a crystalline, fluorescent substance, almost analogous to æsculin, which was first obtained by Dr. Lyons. This crystalline body is supposed by Ludenbeck to be a glucoside. Another crystalline, neutral principle has been detected, which was presumed to constitute an alkaloid. Trimble and Schroeter, however, show that this alkaloid is merely a resin, having the formula of  $C_{18}H_{31}O_2x$ . The leaves also yield pavin and fraixin, two neutral principles; besides this, it also contains an essential oil, resin, and extractive matter, which, when burnt, liberates an odor similar to India rubber. The resin is the active principle of the drug. It is insoluble in water, soluble in alcohol and to some extent in ether. The fluid extract of pichi made with strong alcohol deposits, on long standing, the fluorescent principle described above. It forms white, light crystals, of a bitter

\* Read before the Wayne County (Detroit) Medical Society.—Reprint from the *Physician and Surgeon*.

taste, turning blue on the addition of ammonia, and assuming a rose color with acids.

To recapitulate, pichi contains—(1) Minute quantities of an alkaloid, crystallizable, of a bitter taste and neutral reaction, forming salts with acids. For convenience I term this alkaloid fabianine or pichine. (2) A neutral principle, rich in carbon, insoluble in water, tasteless and inert. (3) A fluorescent body analogous with æsculin and classed among the glucosides. (4) A volatile oil. (5) A bitter resin having the formula of  $C_{18}H_{31}O_7x$ , upon which the activity of this drug depends. The three last-named are the most important ones, constituting the active principle of pichi. The resin is more active than the fluid extract and has lately been substituted for the latter.

*Incompatibles and Synergists.*—The fluid extract of Pichi is incompatible with aqueous solutions, the latter precipitating the resin. This can conveniently be avoided, however, by the addition of an alkali. This affords two advantages: (1) It proves a synergist to the action of the drug upon mucous membranes, and (2) it affords the means of perfecting an aqueous solution of the fluid extract.

*Preparations, Dose and Manner of Administration.*—Pichi is best administered in the form of a fluid extract (made by cold repercolation) in combination with an alkaline aromatic, in doses of from ten to forty minims every three or four hours, or about four to six fluid drams *per diem*. It can also be combined with glycerine, which constitutes an excellent *modus administrandi*. Lately the solid or powdered extract has been extensively used in two to ten-grain doses in the form of a capsule, and is supposed to be more effective. Lamousin recommends a decoction of the wood, one ounce of the latter to two pints of water, to be divided into four parts and taken during the day. Pichi deserves a prominent place in every textbook on materia medica as well as in the "United States Pharmacopeia."

*Actions and Uses.*—Applied externally to mucous surfaces, it increases and simultaneously modifies the secretion of the latter, by liquefying it. It has been employed with success in congestions and inflammations of the mucous membranes of the nose, mouth, and throat, either in the form of a gargle, spray, or topical application, in conjunction with an alkaline solution, preferably the biborate of soda and chlorate of potassium. When taken internally, a similar effect is produced upon the mucosa of the alimentary canal. Like all the bitter tonics, it augments the gastric secretion, thereby promoting appetite and digestion. Likewise—due to reflex stimulation of the biliary ducts—it enhances the flow of bile, which, upon entering the duodenum, is rendered thinner under the influence of this drug. This effect is still more pronounced by combining the fluid extract with phosphate of soda. When absorption has taken place, it proves a valuable systemic hepatic stimulant. Pichi is therefore both a local and constitutional biliary promoter. It stimulates the cardiac ganglia, thereby lengthening systole and raising the arterial tension. It has no marked influence upon the respiratory function proper, although exerting a beneficial action upon irritable bronchial mucosa, by both modifying its secretion and allaying its irritability.

From the above description we see that pichi is a stimulant and alterative to secretions in general, as well as a sedative to mucous membranes, especially to the urethral mucosa. The latter is its site of predilection. In Chili it enjoys a high reputation in the treatment of urinary diseases. From my personal experience I cannot praise too highly this valuable therapeutic agent in the treatment of the various forms of urethritis. It is said to expel calculi by virtue of its stimulating action upon the muscular fibres of the urethra. Lamousin maintains that it is the resin of this drug which disintegrates the calculi by liquefying the mucus surrounding them. Another theory is that

pichi so modifies the urine, that the latter favors the molecular dissolution of the calculus, its subsequent liquefaction and final expulsion. It is valuable in all forms of calculi, whether biliary, renal, or vesical. It has proved an efficient urethral and vesical tonic, and is therefore used in cystitis and urethritis, especially in the subacute and chronic stages of these two affections. It promotes diuresis, allays urinary tenesmus and modifies the nature of the urethral discharge. It is especially useful in cystitis due to mechanical causes. Combined with an alkali, as acetate, citrate, or nitrate of potassium, it proves a valuable urinary antiseptic in acute stages of urethritis. It is contra-indicated, however, in organic renal diseases with concomitant albuminuria, the latter increasing after the administration of pichi. It has been found efficacious in cases of hematuria, caused by the passage of calculi, by rendering them smooth and less irritating. Mr. Reginald Benson, however, asserts that this property is due to the solvent action of this drug. Pichi is the *ne plus ultra* in gleet, by modifying its chronic purulency. It has been administered with good results in the lactic and uric acid diathesis, notably in the acute attacks of the former, and in gonorrheal arthritis. In these two diatheses it increases the elimination of the accumulated waste products of metabolism. It has also been employed in hematuria accompanying cancer of the bladder. In nephrorrhagia from any cause it acts excellently in conjunction with ergot. Pichi enhances the liquidity of inspissated secretions, and has thus proved efficacious in cholangitis and sympathetic duodenitis, caused by the latter. It has been highly recommended in hepatogenous jaundice and hepatic dropsy.

Its greatest specificity, however, is upon the mucosa of the urinary tract. In prostataux and acute prostatitis it has rendered valuable service. It has been used with marked success in the last-named affections by Doctor William A.

Hackett, in doses of fifteen minims every three hours, in combination with glycerine. Pichi has proved effective in seminal vesiculitis; also in the subsidiary stages of orchitis and epididymitis, in conjunction with iodide of potassium. Pichi should always be prescribed with an alkali, preferably the potassic salts. Lately it has been recommended in dysmenorrhea, together with viburnum prunifolium and bromide of potassium. The last-named possesses two advantages: (1) as an alkali and (2) as a synergist. I have used Pichi both in the clinic and private practice, in numberless instances in subacute urethritis, either specific or otherwise. As an illustration I cite the following case:

Mr. B. W., forty-five years of age, laborer, of German nationality, married, was attacked—rather suddenly—by an acute urethritis. The family and past history of patient showed nothing abnormal. He was a robust, plethoric-looking man. On examination I found a urethral discharge, with a considerable degree of posthitis. He bitterly complained of pain in the testicle and in the groin, of a lancinating character and periodic in nature. No specific cause could be detected and patient denies having had improper sexual intercourse. Occasionally he is molested by headaches. I prescribed an alkaline diuretic and ordered him to bring me a sample of his urine. The latter had a milky appearance, and upon treating it with a solution of ferric hydrate ( $\text{Fe}_2(\text{OH})_6$ ), a very heavy precipitate of ferric phosphate ( $\text{Fe}_2(\text{PO}_4)_3$ ) was thrown down, showing an abundance of triple phosphates. I continued the alkaline treatment, with the addition of fluid extract of pichi, and put the patient upon a strict dietary regimen, forbidding him, for the time being, alcoholics and all farinaceous and phosphatic food. The pain gradually decreased, the urethral discharge diminished, and the urine became clearer, and patient made a speedy recovery. I usually administer pichi as follows:



|                           |      |
|---------------------------|------|
| R Extr. Pichi, fl. ....   | ℥iv  |
| Pot. Citratis. ....       | ℥iii |
| Tinct. Hyoscyami. ....    | ℥ii  |
| Sp. Aetheris Nitr. ....   | ℥iii |
| Elixir Aurantii, ad. .... | ℥ii  |

Misce. Signa: One teaspoonful in water one hour and a half after meals.

In conclusion, I would say, that the results I have obtained from pichi, are most gratifying.

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#### TREATMENT OF TYPHOID FEVER WITH CASTOR OIL.\*

By C. C. BASS, M.D., Columbia, Miss.

Last year I reported to this Association thirty-two cases of typhoid fever which I had treated with castor oil. I have now to add to that report forty-seven other cases, which I and my associate, Dr. H. H. Howard, have treated in the same way since that report was written. We have taken them just as they came in our regular practice, and had Widal's test made in all the cases where the diagnosis was at all doubtful. We put each patient on the treatment as soon as we determined it was probably typhoid fever. Some of the patients had the best nursing, others had none at all, some were in well-to-do families, and some were among the very poor, careless, and ignorant. These cases have added strength to my conviction of the efficacy of the treatment, and are offered

to support the position taken in my previous paper.

Before undertaking to present these cases, let us consider the necessity of purgation in typhoid fever.

Typhoid fever is an acute, self-limited, contagious disease, characterized by inflammation, necrosis, and ulceration of the Peyer's patches and the solitary glands of the small and large intestines, and due to the typhoid bacillus. In typhoid fever the bowels contain food which is not nearly so well digested as in health; and which, for this reason, readily ferments, producing various toxic products; likewise, the special toxins of the typhoid bacilli are present. These are absorbed into the system and cause most, if not all, the elevation of temperature. Ordinarily there is constipation for a few days followed by diarrhea, which is an eliminative effort on the part of Nature; and as a rule diarrhea continues until convalescence is established. But if any cases are taken in the first week, when the bowels are constipated, and they are cleared out often enough with castor oil, or with any non-irritating purgative, diarrhea will be prevented. If this is kept up, and especially with castor oil, the patient will have no diarrhea at all; and if the oil is stopped any time, there will be a longer or shorter period of constipation thereafter. Almost any case of diarrhea in typhoid fever will give way after a few days to any non-irritating purgative, especially to castor oil; and the purgative being discontinued, there will follow a longer or shorter period of constipation.

Another sometimes extremely important consideration in the treatment of typhoid fever is the control of the temperature. The elevation of the temperature, to a considerable extent, is no doubt due to absorption of poisons generated by the decomposition of undigested food and by the typhoid bacilli. Possibly no physician who has studied the disease at the bedside will take issue with this proposition. The longer the undigested food remains in the

\* Read before Mississippi Valley Medical Association, October 8, 1903.—Reprint from the *N. Y. Medical Journal*.

bowels, the more aggravated the condition becomes, and the higher the temperature rises. If, therefore, the bowels were cleared out oftener there ought to be fewer poisons generated and absorbed.

The superiority of castor oil as a purgative in typhoid fever consists in its mode of action. The saline purgatives are absorbed into the system, which is already overloaded with abnormal bodies, and these being further absorbed, their elimination puts additional work on the liver, skin, and kidneys. Castor oil, on the contrary, goes through the bowels unchanged and unabsorbed. I have recovered from the stools two-thirds of the dose, and I firmly believe that nine-tenths of the dose can be recovered. It, therefore, damages the patient less than any other purgative.

My objection to the use of antiseptics in typhoid fever is the old one; namely, that any antiseptic sufficiently effective to prevent or to materially retard fermentation and germ-life will also prevent or greatly retard digestion.

I have already stated the thorough diagnosis of all the doubtful cases, Widal's test being made, and will now summarize the results in seventy-nine cases. In the majority of these cases no medicine except castor oil was given. All were given an abundance of pure drinking water. The diet was strictly liquid, generally milk, and sometimes predigested food. No deaths occurred. There occurred three hemorrhages. The shortest duration of fever was twelve days; the longest, a case which relapsed, forty-four days. The average duration of fever was sixteen and three-fourth days, counting from the first day of the headache, malaise, etc., until the temperature reached normal. After that, in most of the cases, there was an evening rise for one or two, and sometimes for five or six days; which is the usual course under any treatment. The fact that no deaths occurred out of seventy-nine cases may, indeed, count for very little, yet it does, beyond question, count

for something. We could hardly imagine a treatment which would reduce the mortality to none.

There were only four relapses. This was attributable, in part, to the continuation of the diet during convalescence; but it was attributable, more than anything else, to the fact that the castor oil was continued until long after the fever subsided, and the patient was safe from the likelihood of a relapse. As a rule, during convalescence from typhoid fever, there is more or less constipation, which is prevented by the continued use of the oil. There occurred, practically, no complications. The fact that the poisons were eliminated nearly as fast as generated, and that the patients were not doctored to death with useless and harmful drugs, is probably the reason there were no more complications, and that the cases generally ran a mild course. In almost every case the temperature was below one hundred and two degrees within two or three days after the treatment was begun. In some cases the fever fell faster and went lower than it did in others. I have seen it fall from the effects of one dose of oil three degrees in five hours, and again I have seen a single dose fail to reduce it at all; but I have always found that the temperature would promptly rise if the oil was withdrawn.

The method I think best is to begin promptly with a dose of pure castor oil every twelve hours, regardless of the stage of the disease. The dose should be so regulated as to cause one or two actions, and will vary from one to eight drachms, depending upon the patient, the stage of the disease and the condition of the bowels. This should be continued through all stages of the disease.

**PURGATIVE FOR PREGNANT WOMEN.**—Lutaud, according to *Journal de médecine interne*, for January 15, gives:

R Castor oil.....30 gm. (1 oz.)  
Syrup of rhubarb.....20 gm. (2/3 oz.)  
Alcohol.....15 gm. (1/2 oz.)  
Peppermint oil.....2 gm. (30 m.)

M. For one dose. —*N. Y. Med. Journal.*

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## Editorial.

### EDITORIAL NOTES.

Substitution, as it touches on the relation between prescriber and dispenser, is a subject of daily discussion and a matter of extreme importance to all concerned. Its various phases are cleverly presented in a contribution to this number of our journal—enumerating kinds and contingencies, and indicating the ethics of the problem. It will prove interesting and suggestive reading.

\* \* \*

As we have remarked in these columns before, the pharmacist is more sinned against than sinning. The average pharmacist is a conscientious professional man, thoroughly educated, a graduate of pharmacy, and fully equipped to dispense the legitimate prescriptions of any physician. If these prescriptions included only pharmacopeial products, or staple pharmaceutical preparations, no question of substitution would ever arise. There is no need of enlarging on this proposition; the hint is sufficient to suggest all the possibilities of such an ideal condition.

\* \* \*

The whole trouble is due to *Proprietarys*, which are now prescribed in such uncountable variety that no pharmacy could possibly stock the complete line, though it were larger than the largest

department store in New York. There are a dozen different brands of chemicals, a hundred makes of fluid extracts, pills, tablets, etc., from which physicians may choose a favorite,—and how can an average pharmacist stock them all? Is it substitution if Smith's Fluid Extract Licorice is not dispensed as specified, but the pharmacist uses his own production—or perhaps Brown's make, in which he has full confidence? Would it not be well, in all parallel cases if the pharmacist had full liberty to employ a standard product of the drug prescribed, irrespective of special brands of manufacture? Preferably he should make the preparations in his own laboratory.

\* \* \*

As for special preparations or formulas introduced under trade-marked names, and exploited by the original proprietors, substitution is unpardonable. And here each physician has the remedy within reach. If he wishes to employ a preparation of this kind, in the therapeutic value of which he has confidence, let him do one of three things:

1. Prescribe an original package, and instruct his patient to take nothing else.
2. Prescribe whatever quantity he desires, but make sure that it is dispensed by a pharmacist on whose unswerving adherence to specification he can rely; or
3. Dispense the preparation direct to his patient himself.

The physician who will adopt the above methods will have no further trouble with substitution.

\* \* \*

IT IS NOT AMISS occasionally, in the rush of new remedies and the flood of literature relating to them, to take up the study of some of the old-timers. The reader will find in this number selected descriptive articles on Hyoscine and on Pichi, both comprehensive and instructive, and we trust he will share our belief that these articles will repay careful perusal. The shorter clinical note on Castor Oil in Typhoid Fever will also prove interesting.



## Current Literature.

OVOFERRIN :—The following editorial from the *Critic and Guide*, March, 1904, seems to prick a bubble effectively :—

At last we were to be treated to a new departure. At last we were to have a strictly ethical preparation, with no exaggerated claims, with no false pretensions, with all the statements based strictly on facts. Alas! It was not to be. The manufacturers of ovoiderrin have made certain statements which need further investigation. I may be mistaken, and if so, I hope the manufacturers will put me right.

1. The manufacturers state that ovoiderrin is *neutral in reaction*. I would ask my readers to test it with litmus paper or with phenolphthalein. I find it *distinctly acid*, and I think I am able to test for a reaction.

2. The percentage of iron in ovoiderrin is rather a mooted point, which I should like to get some light on.

The manufacturers say : "Each tablespoonful of ovoiderrin is equivalent to one grain of elementary iron." Well and good. But Dr. Coblenz says : "I find eight per cent. of iron (*calculated as metallic iron*) present in the state of organic combination." This, of course, leads one to believe that the preparation contains eight per cent. of metallic iron, which would be equivalent to at least 19.2 grains per tablespoonful. There is a great difference between 19.2 and 1. But let us assume that Dr. Coblenz really meant to say that the preparation contained eight per cent. of the organic combination. The formula given by the manufacturers is  $C_{12}N_{11}SH_4Fe_2O_{22}$ . The percentage of elementary iron contained in this "definite" chemical must therefore be  $\frac{144}{528}$  or 27.3+%. Eight per cent. of this is 2.184, which would give us at least 5.2416 grains of *elementary or metallic iron to the tablespoonful*. The manufacturers themselves claim that their preparation contains only one grain of elementary iron to the tablespoonful.

How to explain this discrepancy? Dr. Coblenz is a careful analyst. Is it possible that the manufacturers themselves do not know the true percentage composition of their preparation? This is not very likely. So how to explain the discrepancy? I shall await the explanation with impatience.

3. The manufacturers state that ovoiderrin is absolutely unchanged by hydrochloric acid. This statement, I regret to say, is contrary to the facts, and I am at a loss to understand how intelligent manufacturers could make such a statement. That it is very decidedly changed by hydrochloric acid will be seen from the following simple experiment : On adding potassium ferrocyanide to ovoiderrin no change is noticed. But if we add hydrochloric acid to ovoiderrin, and then add potassium ferrocyanide, we get a very decided reaction; namely, we get the well-known color and precipitate of Prussian blue, which proves *conclusively* that hydrochloric acid *does* decompose ovoiderrin, changing it into inorganic iron. The further statement : "hence it is free from local action on the gastric mucous membrane," is therefore also untrue.

4. The manufacturers state that their preparation has attracted much attention in scientific circles in Europe. I may be pardoned if I doubt the correctness of the statement. If it had attracted attention, the attention was not sufficiently strong to bring it into the medical press. Disregarding false modesty, I will state that I am probably as familiar with foreign medical literature as any one man can be. I go through every medical journal of any importance in six different languages. My memory is also pretty good—and still I cannot recollect having seen any article in the foreign literature on ovoiderrin. Of course, there is a possibility of an oversight. If this is the case, will the manufacturers kindly send me the foreign bibliography on ovoiderrin?

5. One word about the American literature on ovoiderrin. I shall not say that it

has *all* been made to order, but I would ask our readers to compare Prof. Shoemaker's article with the advertising matter sent out by the manufacturers. If ever there appeared a "write-up," this is one—or I have lost my ability to recognize and diagnose "write-ups" when I see them. Even the phraseology is strikingly alike in some places. Is it merely a coincidence?

The manufacturers of ovoidin will greatly oblige the medical profession by shedding some light on the obscure points which I have touched upon in this editorial. I do not impugn the therapeutic efficacy of the preparation. My experience with it has not been sufficient to entitle me to pronounce an opinion *pro* and *con*. But one thing I can state positively: the ravenous appetite which is claimed to follow the administration of ovoidin has failed to put in an appearance even in a single case in my practice. I have administered it to a number of anemic children, suffering with anorexia; an increase of appetite would have been very welcome indeed, but the children's parents and myself looked for it in vain.

**THERAPEUTIC VALUE OF YEAST.**—The *Journal of the British Royal Army Medical Corps*, December, has an editorial dealing with yeast as a therapeutic agent. Beer yeast, the product referred to, has long been known as a home remedy for boils, carbuncles, and other inflammatory conditions. According to the editorial in question, Preston and Taruella (*Revista de Med. y Cirurgia*, June 15, 1901) were the earliest workers to adduce experimental proof of the value of yeast, the most important of their conclusions being the following:

1. Beer yeast exercises a local and curative action upon streptococcal and staphylococcal infection in rabbits, when administered hypodermically for five to twelve days in 10 c.c. doses of a well-grown culture.

2. Similar injections repeated for four

consecutive days render rabbits immune to these coccal infections.

3. The curative principles of yeast are intra-cellular and act only after liberation by a leucocytic or humoral ingestion of the cell.

4. Blood serum of rabbits treated by yeasts has an agglutinating action upon streptococcus and staphylococcus albus and aureus. Yeast cultures in beef and barley medium show this same power after two days' growth, and lose it when heated to 55° C.

5. Mixed cultures of yeast and streptococcus produce attenuation of the virulence of the latter.

6. In the pus of a subject treated by yeast the pyogenic organisms decrease in number and in virulence.

It is further stated that only about seven-tenths of an average sample of beer yeast consists of *saccharomyces cerevisiæ*, the rest being impurities. If a yeast be kept in a dry but cool place it is capable of secreting its soluble ferments after a long lapse of time; moisture and warmth alter its character rapidly, mainly by enabling the impurities to replace the true *saccharomyces cerevisiæ*. The results obtained by yeast in the treatment of boils and carbuncles are apparently due to its antiseptic, phagocytic, and immunizing action, not to any specific action upon particular pathological lesions. Infantile diarrhea, infective and micro-membranous enteritis or dysentery, have all been much relieved by the action of beer yeast.

In 1895 Cassaët recommended beer yeast for the treatment of diabetes mellitus, its beneficial action in this disease depending upon the conversion of all starchy elements into alcohol. Boigey confirms these statements.

Many other diseases are said to be much benefited by treating with yeast. The claim is not made for yeast that it is by any means a universal panacea, but it is asserted that, judging from experimental and clinical facts, it is a valuable remedy. —Editorial in *Med. Record*, Jan. 23, 1904.

LOCAL ANESTHESIA.—In the course of a paper on this subject, in the *Therapeutic Review*, Horatio C. Wood, M.D., LL.D., Philadelphia, says the following :

The suggestion of Barker that eucaïn be substituted for cocain seems to have brought infiltration anesthesia almost to the high-water mark and has been followed out in Philadelphia by various surgeons with great satisfaction. The plan is readily carried out as follows: Powders are kept in stock in the operating room, containing 0.02 grm. (3 grains) of Beta-eucaïn and 0.8 grm. (12 grains) of pure sodium chloride. At the time of the operation one such powder is dissolved in 100 cc. of boiling distilled water, and when it is cooled sufficiently, 1 cc. of adrenalin chloride solution (1:1000) is added; 100 cc. of the resulting liquid contain 3 grains of B-eucaïn and 0.015 grains of adrenalin chloride. The whole 100 cc. may be used at one infiltration anesthesia, but according to Barker from 50 to 60 cc. usually suffices, even in such considerable operations as for the cure of hernia, castration. It is, of course, essential that the syringe used be aseptic, and the surgeon should always employ the platinum needle with an iridium point, which can, without injury, be disinfected in the flame of an alcohol lamp immediately before use.

MORPHIA AS AN ANTIPYRETIC.—The tendency of the younger generation of practitioners (says Dr. H. D'Arcy Power, in the *Pacific Medical Journal*, January, 1904) has been to consider morphia solely as an anodyne, and even in that capacity to supercede it as far as possible by other agents. This was by no means the view of our fathers; who considered opium the most valuable drug in the pharmacopeia, and who especially insisted on its power to regulate fever and inflammation, in which connection we may recall the fact that until the introduction of quinine it was used as an antiperiodic.

That the older views, based on centuries of practical, albeit empirical experience,

were correct, has received corroboration from the discoveries of Dr. E. T. Reichert. In the November number of the *Medical Bulletin*, University of Pennsylvania, this writer reports the results of a series of investigations on the action of various agents upon the animal heat mechanism. As is well known, the maintenance of the normal temperature (thermotaxis) is brought about by a balancing of heat production (thermogenesis) and heat dissipation (thermolysis) through the influence of the nervous system. That this nervous influence is concentrated in a bulbar heat center is generally known, but recent work demonstrates a complex arrangement, and that one center in the caudate nucleus is especially concerned in the production of fever. Dr. Reichert's studies show that morphine even in small doses causes "an immediate and rapid fall of body-temperature and heat production. The average decrease in heat production was 26 per cent. during the first hour, or a total of 62 per cent. in two hours; temperature fell during the two hours 1.6° C. The changes in heat production and temperature were found to be in direct relationship." Furthermore, experiments (reported in detail) demonstrate that this action of morphine is effected by a direct depressor action on the fever center. In these facts we have a complete explanation of the use of morphia as a febrifuge. Dr. Reichert's experiments extend to many other drugs, and show that cocaine acts upon the same mechanism, but in a directly opposite manner to morphia, and is in this respect its antidote. "With alcohol, when given in moderate doses, the total quantity of heat produced is not affected; heat dissipation is increased; the temperature is lowered owing to heat dissipation; and by undergoing oxidation it in all likelihood yields energy chiefly in the form of heat, thus conserving certain forms of pabulum, and acting as a food. Strychnine and brucia increase body-temperature chiefly by motor excitement. Pilocarpine primarily increases and second-



darily decreases heat production, heat dissipation and temperature. Atropine lowers heat production and body-temperature."

The rest of Dr. Reichert's conclusions are summarized as follows :

1. That specific thermogenic centers exist in the brain and spinal cord, and that these centers are probably connected with each other and with various parts of the body, especially with the skeleton muscles and skin, by specific afferent and efferent thermogenic nerves.

2. That the centers in the brain are thermo-augmentor or thermo-depressor, and that the center in the spinal cord is a general or reflex center.

3. That the brain centers probably affect heat production by acting upon or through the spinal center.

4. That the spinal center, when separated from the brain centers by section, is capable of maintaining for a time the normal standard of heat production, notwithstanding the rapid fall of temperature which at once sets in after the operation.

5. That the activities of these centers are largely influenced by changes in the temperature of the blood and by cutaneous impulses generated in the peripheries of the "heat" and "cold" nerves.

6. That the caudate nuclei contain an important thermo-augmentor center.

7. That the pons and bulb contain a thermo-augmentor center.

8. That a thermo-inhibitory center is located in the dog in the first cerebral convolution posterior to, and in the vicinity of, the sulcus cruciatus, and that there may be another such center which extends downward from the junction of the suprasylvian and post-sylvian fissures to the posterior fissure.

9. That there is not as yet adequate evidence to warrant the belief that specific heat centers exist elsewhere than as above stated.

10. That the skeletal muscles are specific heat-producing structures; that is, heat is produced as a specific product in

the same sense as saliva is a specific product of the salivary glands.

11. That morphine exerts coincidentally thermo-depressor and thermo-augmentor actions, the former being by far the more important; and that the thermo-depressor effects may be preceded or interrupted by thermo-augmentor effects.

12. That the thermo-depressor action is exerted practically solely upon the caudate thermo-augmentor center.

13. That the thermo-augmentor action is exerted chiefly upon the ponto-bulbar thermo-augmentor center, and to a very limited extent upon the skeletal muscles.

14. That morphine and cocaine are direct antagonists in their action upon the caudate center.

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INSOMNIA.—Gordon (in *Medical Record*, February 20, 1904) reviews the various methods of relieving insomnia under the three general heads of diet, hygiene, and drugs. Among general measures the warm bath and cold wet pack are of about equal efficiency. In either case it is of the utmost importance to keep the head cool. Unless hydrotherapeutic measures are employed, with the greatest regard for details, the results obtained will be disappointing. The most serviceable of the hypnotic drugs is paraldehyde. The nastiness of the dose may be reduced by exhibiting the drug as follows: Paraldehyde, two parts; whiskey and orange syrup, of each one part. To be of any service, two drachms of paraldehyde should be given at a dose.—*N. Y. Med. Journal*.

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A NEW TREATMENT FOR DYSMENORRHEA.—Emil Ries (*Am. Gyn.—Charlotte Med. Journal*) says that every self-respecting textbook of gynecology informs us that dysmenorrhea is not a disease, but a symptom. Nevertheless, the majority of these books proceed immediately thereafter to a discussion of dysmenorrhea in a special chapter apart from the systematic consideration of the pathological changes in

the female sexual tract. This unsatisfactory knowledge of the etiology of dysmenorrhea is mirrored in the more unsatisfactory results of the therapeutics of this symptom. The cases of dysmenorrhea that are amenable to successful operative treatment are comparatively few, and belong to a few well-known and well-defined classes with distinct pathological changes. Once diagnosed they yield to proper operation.

A class of cases—pathological anteversion, pinhead os or stenosed cervix—are operated on frequently with negative result. Medical treatment, if less ruinous to the patient's sexual organs, is only too liable to deviate into the smooth and easy downward path to the opiate, which leads to the perdition of body and soul. The bicycle has probably done more for women with dysmenorrhea than any medical treatment, but unfortunately, it is falling into disuse.

Under these conditions, all progressive men must be willing to investigate every new idea that is offered in the treatment of dysmenorrhea, if it proves, first, harmless, and, secondly, reasonably successful, and if it has a sound basis. He refers to the Fleiss treatment of dysmenorrhea. Fleiss, a rhinologist, read a paper before the Berlin Obstetrical Society in 1897, giving a series of experiments which had convinced him that there was a species of dysmenorrhea dependent on changes in the nose, and curable by the treatment of these nasal conditions. He mentions two classes of this condition. In one the pain stops as soon as the menstrual flow begins. This class does not belong to what he calls nasal dysmenorrhea. The cases in which the pain continued after the beginning of the flow presuppose a certain pathological condition of certain spots in the nose, which he termed "genital spots." These spots are on the inferior turbinated bones and the so-called tuberculum septi. At the time of the menses these areas increase in size and sensitiveness, bleed easily, and are more or less cyanotic. In

women with nasal dysmenorrhea the pain disappears immediately as soon as these spots are treated with a few drops of a 20-per-cent. solution of cocaine. He has experimented with this treatment in four cases, one of which within the last year has been dilated, curetted, and a Sims operation done on the cervix without success. In all four cases the effect of the cocaine was surprising to the doctor as well as to the patients. He advises that series of experiments along this line be conducted in order to determine the modus operandi of the treatment, and suggests the following:

(1) Use the treatment according to Fleiss. In case of positive result use (2) cocaine in the pharynx, (3) cocaine on areas outside the genital areas in the nose, (4) some astringent solution instead of cocaine, (5) plain water at body-temperature.

Of course, the patient must be ignorant of what solution is being used. The result of the varied applications will show for how much the element of suggestion counts in the treatment.

The treatment is so exceedingly simple and so easily applied that every practitioner can aid in the determination of the value of this method.

There is no possibility of the patient's getting into the cocaine habit in consequence of the success of this treatment of dysmenorrhea.

DRY HOT AIR AS A THERAPEUTIC AGENT, WITH DEMONSTRATION OF THE BODY-TREATMENT.—Clarence Edward Skinner (*Boston Medical and Surgical Journal*, 1903.—*Charlotte Med. Journal*) believes dry hot air to be of great value in the treatment of a large number of diseases. The best results are obtained in the treatment of the following conditions: (1) *Rheumatism*. The dry hot air treatment should always be combined with the free administration of the salicylates. If this is done it will be found that rheumatism will yield to treatment as easily as malaria. One should

be certain that the diagnosis has been correctly made. Three-fourths of the cases that have come under the author's observation with a diagnosis of rheumatism have not been rheumatism at all. The cures obtained are permanent, though, of course, patients may get new attacks. The chief advantages of the hot air treatment of rheumatism are: the immediate relief of the pain, the shortening of the duration of the disease, the lessening of the liability of cardiac involvement, and the freedom from vicious after-effects. (2) *Sprains*. If treated by hot air within four or five hours after their occurrence, they can be cured in from two to four days, instead of the usual six or eight weeks that is not infrequently needed by any other method. (3) *Arthritis deformans*. A considerable number of cases of this affection can be cured by means of hot air alone. The majority of the victims of this disease can be restored to comfortable and useful lives if, combined with hot air, one uses static electricity and other rational therapeutic measures. The author gives a list of twenty-eight additional diseases in which dry hot air has proved of service. The effect of the hot air treatment on the patient, during the application, is described at length, and attention is called to the changes that occur in the composition of the blood and in the quantity and quality of the various secretions. The method of giving the baths is fully considered and criticisms of the method are answered. There are two methods by which hot air applications may be given: (a) by "local treatment"; and (b) by "general or body-treatment." The author recommends that the apparatus used for local treatment be one which is capable of producing a temperature of at least 400 deg. F. in twenty minutes, and of maintaining it steadily at that point for an indefinite time. The body-apparatus should be capable of generating a temperature of at least 350 deg. F. in half an hour, and maintaining it at that point for an indefinite time.

THE TREATMENT OF MYIASIS. — G. H. Younge says (in *British Med. Journal*, Feb. 13, 1904) in relation to the treatment of myiasis that the larvæ can be at once gotten rid of by the following method: The tip of an ordinary probe is lightly smeared with vaselin and pressed on to a little calomel, so as to take up about one grain of it. It is then passed into the cavity containing the larvæ and gently moved round it. The calomel kills the larvæ in a few minutes. They can then be removed by gentle pressure or by syringing the cavity with a little warm boracic lotion. The drug seems to destroy or neutralize the excretory products of the larvæ, which often excite considerable local inflammation and high fever. It is fatal to most of the lower forms of life.—*Med. Record*.

BALSAM OF PERU IN COMPOUND FRACTURES. —The *N. Y. Medical Journal* says: In *Presse médicale* for December 30, Dumont states that Van Stockum, of Rotterdam, treats compound fractures without any attempt at conventional asepsis, removing simply any foreign bodies from the surface of the wound, and then covering the latter thickly with balsam of Peru, getting it well into the irregularities of surface. If the wound is small, it is filled by means of a syringe. The fracture is then treated as a simple one. A dressing is made of gauze saturated in balsam and absorbent cotton, and the limb is put in plaster or an extension apparatus. There is always fever for three days, which subsequently disappears. At the end of three weeks the bandages are removed, to find either a cicatrized wound or one granulating healthily with no sign of inflammation. No amount of pressure will bring pus. The mortified tissues are mummified, and the fracture has united or is doing well. Van Stockum calls his results "marvellous." It is not impossible that the balsam, containing cinnamic acid, causes a protective leucocytosis, for the occurrence of fever certainly shows a preliminary sepsis. This "embalming of compound fractures" merits investigation by our native surgeons.



## Book Notices.

Compend of Diseases of the Ear, Nose and Throat. By JOHN JOHNSON KYLE, B.S., M.D., Indianapolis, Ind. Publishers: P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia, 1903. Cloth, 80 cents.

This is the latest of the well-known and highly esteemed series of Blakiston's Quiz Compend, and a careful examination shows that it is a worthy addition. The author's connection with colleges, hospitals, etc., easily establishes his status as an authority, and drawing from his own experience and utilizing the information from all publications to date, he furnishes a comprehensive epitome of the subjects covered. For the general practitioner who engages in the treatment of diseases of the ear, nose and throat, this Compend will prove a valuable reference-book. 85 illustrations embellish the text; and the carefully itemized table of contents, together with an extensive index, lend additional value.

The International Medical Annual for 1904 (22d year). Publishers: E. B. Treat & Co., 241-243 West 23d St., New York. Price, \$3.00.

We have the last fifteen volumes of this Year-book on our shelf, and they have been often consulted. The International naturally is an old friend and highly esteemed. It seems to improve with each new volume, in comprehensiveness, in terseness, in the careful selection of all that is valuable and the consequent exclusion of irrelevant matter, and in authority. The General Review of Therapeutics and Dictionary of Materia Medica, by Ralph Stockman and Frank J. Charteris, seems particularly good in this volume; the records of new drugs cover all essentials and the conclusions are direct, incisive and impartial. The other Chapters, by equally prominent authorities, cover the wide range of practical medicine, and are useful for reference because carefully edited and reflecting the matured conclusions of the experienced editors. The illustrations

are numerous and interesting, and increase the permanent value of the work. The International Annual, if placed regularly on the physician's shelf, year after year, gives all necessary access to the World's Progress in Medicine.

The Man Who Pleases and the Woman Who Charms. By JOHN A. CONE. Publishers: Hinds & Noble, 31-35 West 15th St., New York. Cloth, 75 cents.

We have read this little book, consisting of a dozen short essays on the Art of Conversation, Good English, Tact, Good Manners, etc., with sustained interest and genuine pleasure. Courtesy is the keynote of all the good advice and helpful suggestions. It is a little treatise on how to perfect one's self in the manner of daily intercourse with others, worthy of study and assimilation, and certain to reward every reader by suggestions personally applicable. It is a book that deserves wide circulation, and from which all may profit, old and young.

STIMULATING THE SECRETION IN NURSING WOMEN.—Zlocisti (quotes the *Medical Record* from the *Berliner Klinische Wochenschrift*, February 1, 1904) points out the necessity of encouraging nursing instead of bottle-feeding and reports the results he has had with a purified form of cotton seed used as a galactagogue. The observations of dairymen have established the value of the oil cake obtained as a by-product in the expression of the oil from cotton seed as a means of increasing the milk output of dairies, and the author has employed a purified product deprived of its indigestible cellulose constituents for a similar purpose with nursing women. The results showed that the preparation was not found disagreeable to take by the women, and that it did not seem to cause any undesirable effects. In all of the twelve cases in which it was given it seemed to cause a very marked stimulation of the milk flow, which became apparent on the third or fourth day, when twenty-five to thirty grammes of the substance had been administered.

# The American Therapist.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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## Leading Articles.

### THE TREATMENT OF GONORRHEA IN MALES.

By LAFAYETTE BENNETT, M.D., Central City, Ky.

Only in the last twenty-five years has the importance of gonorrhea been understood by the profession. In this period great strides have been made in every department of medical inquiry, but not until within the quarter of a century has the profession in general recognized the importance of gonorrhea, as it is now understood. To it are traceable many of the most distressing disease conditions, and it is therefore now being studied by the best clinicians in all parts of the world. A distinguished professor of venereal diseases once declared that, if the history of all the physical and mental woes that had their origin in *one courtesan*, who had gonorrhea, were published broadcast, the country would be aroused to the danger of the disease—and smallpox and cholera would be little less dreaded. This picture cannot be said to be overdrawn if we remember the salpingitis, gonorrheal ophthalmia, enlarged prostate and other conditions which are encountered in the daily practice of the physician.

Several observers have advocated such treatment at the incipency of an attack, as would abort the gonorrheal process. It has only been claimed by the warmest advocates of the abortive treatment that it offers benefit when cases are seen in their very incipency, and then only a limited number of cures follow.

On this point I cannot refrain from quoting the words of Hayden, who in speak-

ing of the abortive treatment of gonorrhea says:—"The patient should always be informed that it is more or less painful, apt to fail, and may lead to such complications as peri-urethral abscess, posterior urethritis, epididymitis, prostatitis, abscess of the prostate, and cystitis." This statement of the possible outcome of the abortive treatment of gonorrhea has been borne out by my observation and studies, and I therefore never resort to it and am always ready to advise against its employment.

Rest is an important matter. These patients if possible should avoid active physical exertion. The patient's mind should be occupied, but physical exertion should be restricted as far as that is possible. Horse-back riding must not be resorted to. It is said that German soldiers who have to ride horseback never recover from gonorrhea.

The diet of these patients must be nourishing, but in no sense stimulating. Pepper must be avoided, and similar condiments are also to be displaced. Alcoholic and malt liquors are most prejudicial to our patient and will work great detriment in any case. The testicles and penis should be supported in a suspensory bandage. This contributes to the comfort of the patient, and will tend to prevent the oncoming of epididymitis. A suspensory bandage should be used in every case, and its employment is to be instituted as soon as we take hold of the case.

The patient's bowels should in no case be allowed to be constipated since that would retard to some extent the favorable progress of the disease. To relieve constipation the laxative mineral waters are greatly superior to any other remedies.

For the first four or five days, the acuteness of the inflammation of the urethra renders the act of urination very painful, and during this time there is always more or less fever and malaise. Chordee is also a painful visitation of gonorrhea, that is felt in the acute state with much acuteness. The ardor urinae and chordee are generally relieved by alkaline diuretics and camphor. I have come to adopt the following prescription :

|        |                                      |                 |
|--------|--------------------------------------|-----------------|
| R      | Potass. acetatis.....                | nono j          |
|        | Aq. camphorae.....                   | nono j          |
|        | Aq. purae.....                       | q. s. ad 3 viij |
| Misce. | Sig.: Tablespoonful every six hours. |                 |

This should be used until the acute stage has passed. We should begin then with such an agent as will bring about a cure of the disease process.

On this subject I will quote the words of Belfield, since they so accurately state the status of professional opinion to-day. He says:—"The rational treatment of gonorrhea—the destruction of the invading bacteria, or at least the inhibition of their growth—must evidently be accomplished by the way of the blood current; this is the one medium by which the entire infected surface, its nooks and cranies, lacunae and follicles included can be reached." Roberts says in this connection: "No means of destroying the infecting germ is known." I might multiply quotations from eminent authors to show that no means is at our disposal whereby we can destroy the gonococcus by injections or irrigations of antiseptics.

The gonococcus imbeds itself in the urethra and no fluid can come in contact with it. Our resource, then, is to effect the cure of gonorrhea by internal remedies.

I may say here, briefly, that syringes so irritate the meatus and the urethral mucous membrane that they frequently effect harmful results.

I have for some time depended alone on internal treatment and my results have been excellent.

I rely upon San-methyl (Grape) in the treatment of gonorrhea. It has brought

me the most prompt and satisfactory results. San-methyl (Grape) is composed of Methylene Blue, Salol, Santal, Cubebs, Copaiba, Matico, and Cinnamon.

Methylene blue is regarded as one of the greatest remedies ever used in gonorrhea and there is no teacher of much experience who does not incorporate it with other agents in the treatment of this disease. San-methyl (Grape) is by far the happiest combination of the favorite remedies that I have ever known, and a careful test of the agent has convinced me that it brings about cures more quickly than any other remedy at the disposal of the profession. San-methyl (Grape) is presented in the form of a soft elastic capsule, twenty-four coming in a box. I begin their employment by giving one capsule four times daily after meals and on going to bed. But I have frequently given more. When the patient begins to make substantial improvement I reduce the number of capsules. San-methyl (Grape) used in this way has brought about a cure of gonorrhea in a shorter time than any other means when the patient follows directions. Some patients recover under this remedy in two weeks—even shorter time occasionally, but none have gone longer than four weeks who followed my directions intelligently and conscientiously.

Mr. —, age 23., a college student come home on a vacation, applied for treatment of gonorrhea which he had contracted before leaving school. This had now passed the acute stage, and a considerable discharge of pus was present. I at once put him on San-methyl (Grape) one capsule after meals and on going to bed. I cautioned him against high living, alcoholic liquors, and told him to spend as much of his time in the recumbent position as possible, and in any event to avoid physical exertion as much as possible. This patient obeyed me intelligently and I was able to discharge him at the end of eighteen days.

Mr. —, age 31. This patient, a business man, had gonorrhea, and had tried



to treat himself with the remedies suggested by his barber. He had used injections, and taken gin and balsam copaiba internally. Very naturally he had made no progress, and the three weeks experience had been a most unhappy one. When he came to me, I directed him to leave off the gin, and to avoid stimulants and rich food, etc., and gave him San-methyl (Grape) one after each meal and on retiring. Nothing else was employed in the case. At the end of three weeks he was entirely well—having then seen no discharge for an entire week.

Mr. —, a bookkeeper age 25, applied for relief from gonorrhea of two weeks' standing, that had also been treated by some prescription he had gotten from a druggist which consisted of the use of an injection. He was told to leave off the injection and use only the San-methyl (Grape) for which he was given a prescription. On this he made an uninterrupted recovery in ten days. The patient has been seen frequently lately and he told me that he had seen no sign in any way of the disease. I examined his urine with a view of ascertaining whether there were any shreds in his urine. But these examinations made a week after the cessation of the discharge failed to show any evidence of gonorrheal inflammation.

Mr. —, age 39. This patient had been a sufferer with gonorrhea two days before it dawned on him that his disease was gonorrhea. He was assisted through the acute stage with the alkaline diuretic and camphor, and then he was put on San-methyl (Grape) and I had him to take the remedy exclusively for three weeks—when his discharge had entirely ceased. He quitted the remedy after taking a week longer in diminished dosage, and has since remained well.

In conclusion, I may say these are only a few of many similar histories that could be given—but they will serve to give one an idea of treatment by the means I advocate.

## PEPTO-MANGAN; ITS THERAPEUTIC ACTION.\*

BY OTTO ROEN, M.D., Vienna, Austria.

As early as 1849, Hannon demonstrated the presence of manganese in the blood, and in the same year Petrequin showed that iron and manganese decrease to the same degree in the blood of chlorotic persons, and therefore must be replaced in an equal measure. In 1857 Menke called attention to the pharmacodynamic significance of manganese in the mineral waters of Pyrmont, while Rühle ascribed chlorosis to an impoverishment of the blood in manganese or iron or both conjointly. The most recent researches have not only confirmed these statements, but have demonstrated that manganese acts more powerfully upon the oxygen of the blood than iron, and hence promotes assimilation more energetically than the latter. That notwithstanding those initial experiments, the therapeutic use of manganese has fallen into oblivion, is attributable to the fact that hitherto it was not found possible to combine both these hematogenic elements in a form in which they would be easily absorbed.

If in the search for a preparation fulfilling these requirements we review the inorganic compounds thus far known, we learn, both on the ground of theoretic considerations and practical experience, that neither oxidules nor soluble or insoluble oxids, neither acid nor alkaline combinations of iron and manganese respond to the moderate demands.

Even the organic preparations heretofore produced—the iron albuminates and peptonates—suffer from similar disadvantages as the inorganic. The albuminate of iron is held in solution by a comparatively large amount of caustic soda, which neutralizes the gastric juice, while a decomposition takes place with the formation of the irritant chloride of iron. On

\* Translated from *Medicinisch-Chirurgische Central-Blatt*, No. 38, 1903.

the other hand, the peptonates are rendered soluble by the addition of a relatively large quantity of mineral acids, and consequently are precipitated by the alkaline intestinal secretions and rendered more difficult of assimilation.

All the chalybeates hitherto in use therefore do not satisfy the chief requirement demanded of them, viz.: a neutral reaction; moreover, they lack one important factor against chlorosis, anemia and allied conditions—manganese.

In the Pepto-Mangan of Gude it has been possible to unite all the advantages and eliminate all the disadvantages alluded to above. It contains iron and manganese in a neutral combination with peptone. As will be seen from the literature published, this form, according to clinical experiments extending over ten years, has proved to be the only one in which manganese plays a prominent part as an oxygen carrier in the function of the blood.

Dr. Heitzmann, of Vienna,\* recommends during medication with Pepto-Mangan, a diet consisting of milk, the red kinds of meat, especially ham, poultry and soft boiled eggs, and other easily digestible foods. He has successfully employed the preparation in a number of cases, both in chlorotics and in women and girls who had become anemic in consequence of repeated losses of blood (menorrhagia, metrorrhagia), or after recovery from inflammatory processes of the pelvic organs (perianal para-metritis), as well as after long-existing catarrhal diseases from the genital organs (leucorrhoea).

In most every instance he was able to observe a rapid increase of the appetite and an improvement in the bodily nutrition, a healthy color of the face, a gain in weight, and, on the other hand, a disappearance of the weakness and digestive disturbances. Heitzmann mentions with particular praise that Pepto-Mangan, as

compared with similarly acting preparations, was gladly taken by the patient without any deleterious after effect, even during prolonged use. The fact that it is so well borne depends upon the pleasant appearance of the clear, dark fluid, and its agreeable non-metallic and non-astringent taste. It does not act injuriously upon the digestive organs like any other chalybeates, but, on the contrary, increases the appetite.

Dr. E. Hoenigschmied, of Weistrach, reports several very instructive histories of cases, of which we will reproduce one here in abridged form. Rosa H., 26 years old, has suffered since a number of years with chlorosis. The mucous membranes were pale, the pulse 140, small and thread-like; the appetite was impaired; the stools irregular. The patient complained of lassitude, vertigo, tinnitus, dyspnea, and palpitation of the heart. As various other chalybeates were not well tolerated, because they produced a feeling of pressure in the stomach, and nausea, Hoenigschmied ordered Pepto-Mangan, in doses of one teaspoonful, twice daily, in some milk, besides aqua laurocerasi, in soda or raspberry juice. She was nourished exclusively on milk, with barley water and clear meat broth. After a few days the malaise and nausea subsided, so that the aqua laurocerasi could be discontinued, a desire for food manifested itself, and the patient was able to take besides milk some beef, a soft egg with a roll, and the like. The dose of Pepto-Mangan could now be increased to three teaspoonfuls, daily. At the end of six weeks her condition had so much improved that she was able to take a walk of three-quarters of an hour's duration without any weariness. The pulse had become quite vigorous, being 80 to the minute. The mucous membranes had a healthy color.

The other cases corresponded to that just mentioned in regard to the action of the preparation, which, according to Dr. Hoenigschmied, is superior to any other ferruginous remedy.

\* Heitzmann: The Uses and Action of Pepto-Mangan Gude (*Allg. Wr. Med. Ztg.*)

Dr. Ripperger\* justly excludes as inconclusive evidence of the efficacy or inefficacy of a ferruginous preparation those cases of improvement in the quality of blood from its use, in which the anemia follows profuse hemorrhages or extensive operations, or those cases of anemia due to gastritis in which both these conditions receive treatment, since it is impossible to determine how much is to be attributed to the action of the chalybeate and how much to the natural regeneration power of the organism. Furthermore, those experiments are indecisive which are made on patients who have been only a short time in a hospital, because persons of the poorer class here obtain a more substantial diet, those of the wealthy class a more wholesome one, and this in itself is calculated to improve the quality of the blood. To permit of an objective conclusion only those cases of pure essential chlorosis are left which are treated in ambulatory practice, since their mode of life, conditions of nutrition and work remain practically unchanged before and during the use of the iron preparation which is being tested. Whatever improvement is then obtained in a case of chlorosis can thus be ascribed in great part to the medicament employed.

In accordance with these very rigorous requirements Dr. Ripperger made his experiments with Pepto-Mangan in the German dispensary of New York. In these carefully selected cases the preparation was employed to the exclusion of any other treatment, and in 92 per cent. a considerable increase of the percentage of hemoglobin was obtained. In a few other cases the result was negative. In all the successful cases the subjective condition was materially improved. Deleterious effects upon the stomach and intestinal canal were not complained of by any patient, and it was, as a rule, gladly taken.

This author, therefore, designates Pepto-

Mangan as a very useful and easily assimilable, ferruginous preparation, which does not tax the digestive organs, and which deserves general consideration and use in the treatment of chlorosis.

A very extensive test of Pepto-Mangan has been undertaken by Dr. Pohl, of Vienna.† In conducting these experiments he made determinations of the bodily weight, the condition of blood pressure, the proportion of hemoglobin, and the number of blood corpuscles.

As regards the bodily weight, a reduction was observed in sluggish, obese, chlorotic patients, and an increase in lean persons, of course, in connection with an appropriate regulation of the diet. An improvement of the general condition always accompanied this.

There was constantly a change in the condition of blood pressure in the form of an increase of 60 to 80 mm. The variations of blood pressure in changes of posture disappeared; the pulse frequency fell considerably, and in connection therewith the unpleasant palpitation of the heart subsided.

There was frequently a rapid increase of the percentage of hemoglobin and the number of blood corpuscles. As evidence that Pepto-Mangan stimulates the blood-generating organs to greater activity, Pohl was able to note in various instances the appearance of so-called immature forms of blood corpuscles. This assumption is supported by the fact that in disease of the blood-forming organs, as for example in leukemic processes, an excellent curative effect was derived from the administration of Pepto-Mangan, so that even in severe cases the process was arrested and the glandular swellings were decreased.

In hysteria, neurasthenia, and malarial cachexia, the preparation proved of conspicuous service.

Pohl therefore predicts for Pepto-Mangan a permanent place in the Pharmacopeia.

\* Dr. A. Ripperger (*New York Medic. Monatsschr.*, No. 12, 1808): A Few Remarks on the Ferruginous Treatment of Chlorosis, with Especial Reference to Pepto-Mangan (Gude).

† Pohl: On Pepto Mangan (Gude) (*Aerztlicher Central Anzeiger*).



Dr. Frieser, of Vienna,\* has presented the most recent report on this preparation. He found that excellent results were obtained not only in primary anemia and chlorosis but in all those diseases which are accompanied or followed by anemic conditions. Its action in scrofula and rickets was usually very satisfactory, and no less favorable in the initial stages of tuberculosis, where symptoms of anemia are frequently noticeable. This also applies to conditions of weakness and to convalescence from acute febrile exhausting diseases (pneumonia and typhoid), as well as to debilitating chronic affections which are frequently attended with anemia, such as tuberculosis, malaria, protracted gastric catarrhs, and other ailments in which the use of roborant and tonic remedies is indicated. Pepto-Mangan showed to particular advantage in weak, anemic children with reduced nutrition and in the anemia of women, especially after large losses of blood, in which after a comparatively short period of administration (five weeks) a marked improvement both of the general condition and appearance of the patients, as well as of the character of the blood, manifested themselves.

Frieser regards Pepto-Mangan as a very efficient medicament which is entitled to a prominent place among the ferruginous preparations in ordinary use.

Finally, we would briefly recapitulate the observations published in this journal by Dr. Metall.†

Twenty-three cases were treated with Pepto-Mangan, of which twelve showed a normal hemoglobin percentage at the end of fourteen days, five after three weeks, and five after a month. One patient, however, afflicted with an hereditary disposition, showed after two months' treatment only an increase to 75 per cent. In two cases of acute anemia, following a profuse

hemorrhage, a favorable result was likewise obtained. In three women who had aborted during the first months of pregnancy, and made slow recoveries from the resulting anemia, a complete cure ensued after four weeks' use of Pepto-Mangan. In six cases of weakness and impoverished blood, after chronic and acute exhausting diseases, a subsidence of the feeling of weakness and considerable improvement of the general health were observed. Unpleasant by-effects were never noticed.

I cannot conclude my review of the chief publications in the literature of this subject without pointing to the gratifying fact that the Pepto-Mangan of Gude has secured a firm place among the most favored remedies, far beyond the borders of our country.

I would refer here only to two articles that appeared in the *New York Medical Journal*, by Dr. Hugo Summa, Professor of Pathology and Pathological Anatomy, and the other by Dr. C. A. v. Ramdohr, Professor of Gynecology. Judging from these two reports, both these American authors, while resorting in part to other methods of examination, reached the same results in regard to the effect of Pepto-Mangan in primary and secondary anemia as their European colleagues.

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GLYCOSAL IN RHEUMATISM.—The properties of glycosal are praised by H. Ratz (*Therap. Monatsh.*, September, 1903), since this drug, by virtue of its peculiar chemical composition, passes the stomach unchanged and liberates salicylic acid in the intestines, so that all gastric irritation is avoided. General and local symptoms disappear more readily than with aspirine but endocarditis cannot be prevented any more than with other salicylic acid compounds. After symptoms were not observed except a slight pruritus and tinnitis aurium. Glycosal is also absorbed from the unbroken skin if alcohol, turpentine or some other volatile substance is added to the ointment.—*Medical News*.

\* Frieser: Some Remarks on Iron Therapy; the Therapeutic Value of Pepto-Mangan (Gude). (*Therapeutische Monatshefte*, April, 1902).

† Dr. Hermann Metall: A Contribution to the Therapy of Anemic Conditions. (*Med. Chirurg.-Zentralblatt*, No. 1, 1902.)

## THE USE AND ABUSE OF PHOSPHORUS.\*

By L. HARRISON METTLER, A.M., M.D., Chicago,  
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of Illinois, Chicago.

With proper selection of cases no drug is more generally useful to the neurologist than is phosphorus. It is both a powerful and a subtle remedy. Like a double-edged sword, it can cut both ways, a fact which may account for the extremes of condemnation and praise which it has received. A careful study of the effects of phosphorus and its compounds will enable the practitioner to avoid its untoward effects while availing himself of its undoubted beneficial action.

Among its available preparations we find the oleum phosphoratum (dose Mj.-Mv.), the phosphorus pill (each pill containing  $\frac{1}{100}$  grain), tincture of phosphorus ( $3\frac{1}{2}$ -3j.), the ethereal tincture (gtt. v.-gtt. x.), the phosphid of zinc (gr.  $\frac{1}{20}$  gr.- $\frac{1}{10}$ ), the dilute phosphoric acid (M x.-M xx.), the phosphates and phosphites, and the glycerol and glycerino-phosphates of iron. From this list one has a large selection.

In the administration of phosphorus two things have to be kept well in mind, namely, that it is a most active medication, and that its overdose or prolonged administration tends to the production of fatty degeneration. Phosphorus is pre-eminently a stimulant to the processes of constructive metamorphosis. It exerts this effect upon all of the tissues of the body. This restorative power which makes phosphorus so valuable a weapon in the conflict with wasting diseases is the very same power that makes it so dangerous. In physiologic conditions of the organism, stimulation of metabolism may easily slip beyond the line of desirability, and so pass over into overstimulation, excessive metabolism, and a general breakdown into fatty degeneration.

The normal changes within the protoplasm of the cells may all too quickly,

under the influence of so active a reconstructive, assume an abnormal rapidity. If this be so in the physiologic state of the cells, how much more may it be so in cells already prone by disease to undergo breakdown. On the other hand, when the cells of the body are performing their functions, especially their metabolic function, in a sluggish, half-completed way, and are therefore in need of a stimulant to rouse them into normal activity, so that they will reconstruct themselves out of the pabulum brought to them by the blood, and therefore be better able to exercise their specialized function, phosphorus in carefully graded dosage will answer the requirements most happily.

Everybody knows how phosphorus stimulates the growth of the osseous tissues. Under its exhibition the spongy part of the bone is thickened and the compact substance grows more dense. Wegner has shown that in animals fed on phosphorus the medullary cavity of the long bones may become completely occluded by the excessive growth and deposit of bony material.

As phosphorus appears so important a constituent in the osseous and nervous tissues, it is thought by some that it thus supplies a kind of nutriment to those structures. With this opinion I am not quite able to agree. The phosphorus of these tissues is, I believe, obtained from the food even when phosphorus itself is being administered. The medicament, in my judgment and observation, is simply a most powerful metabolic stimulant, affecting all of the cells of the body alike; but as some cells, notably those of the nervous apparatus, are by reason of their high organization especially susceptible to stimulation, and by reason of their extraordinary functional activity are in need of rapid metabolic changes, phosphorus exhibits what appears to be an almost selective action upon these cells. Hence in the administration of so vigorous a reconstructive it is imperative that the nutritive material as food should be at the same time

\* Reprinted from the St. Louis *Medical Journal*.

increased in alimentary richness. The appearance of the blood and all the other tissues of the body, in cases of phosphorus poisoning, reveal the extraordinary power of phosphorus in stimulating and by overstimulation exhaustion of the metabolic properties of the cells. Singularly in such cases the intellect often remains unimpaired when the blood is so badly damaged as to cause a hemorrhagic diathesis, with uncontrollable bleeding from the most insignificant wounds.

That there is an increased assimilation of phosphorus in cerebral activity was demonstrated by Alexander Chtchbrak.\* He examined the phosphorus assimilation in (a) regard to the influence exercised by healthy brains; (b) that exercised by slow or comparatively non-active brains, such as those of imbeciles and idiots; and (c) that exercised by brains of animals under the action of morphin. "As a result of these experiments, the author, in general, found that excessive cerebral action—that is, intellectual overwork—produces, other things being equal, an increase in phosphorus waste; that these effects are not observed as the result of physical overwork, nor as that of a moderate mental activity; and that in microcephalous subjects the quantity of phosphorus assimilated is quite small, fixed, and is not modified by the amount introduced with the food." Normal cerebral activity then is associated with phosphorus assimilation, whether the phosphorus be taken in the food or as a medicament. "In normal conditions the phosphorus found in venous is less than that found in arterial blood, the difference varying from 0.08 to 0.09 per 1,000. In natural sleep the proportion is 0.110 per 1,000; in narcotic sleep 0.086 per 1,000." The author finally concludes: (1) The modifications in the assimilation of phosphorus can only occur in the two extreme conditions—on the one hand, under the influence exercised by increased continuous intellectual work; on the other, the lessened mental activity of idiotic brains.

(2) Moderate intellectual work, or a feeble work, as in the case of weak, imbecile brains, does not modify the assimilation of phosphorus. All of which establishes the importance of the rôle played by phosphorus and its compounds in normal cerebral activity.

Remembering, then, the three-fold physiologic action of this remedy, namely, as a reconstructive stimulant to all the tissues and as a special stimulant and nutritive to the osseous and nervous tissues, the indications for its use in the combating of disease will be sufficiently obvious. In connection with this the practitioner must also constantly remember not to administer it in too large doses or for too prolonged periods of time. I am in the habit of employing the minimum rather than the maximum doses, and to cease its administration for a few days at the end of every ten days or two weeks.

In the therapeutic uses of phosphorus I have found the phosphorus itself as prepared in the form of elixir, oil or pill the most satisfactory for the direct stimulation of the nervous system. The phosphid of zinc has been less effective in my hands. For more general tonic effects I prefer the hypophosphites and the glycerinophosphates. The latter are especially commendable. For gastric and hepatic troubles the acid salts are to be employed. The phosphate of soda, for instance, is almost specific in its action upon the liver and in that large class of mild neuroses dependent upon hepatic insufficiency and consequent retention of bile constituents, I avail myself almost always first of the phosphate of soda.

In certain forms of insomnia, due to cerebral exhaustion, small doses of phosphorus have been very useful in my hands. These forms of insomnia are generally the result of overtaxing and anemic and badly nourished brain. They are very difficult at times to relieve, as the brain cells absolutely refuse, in spite of the abundance of alimentations, to sufficiently reconstruct their own protoplasm so as to perform

\* *Savous' Annual*, 1893, vol. v., b. 41.



their neural functions normally. I find the glycerinophosphate of iron especially useful here to both stimulate the metabolic functions of the cerebral cells and to enrich the blood out of which the stimulated cells imbibe their nutrition. In this way, and not as a hypnotic in any true sense, does phosphorus assist in overcoming insomnia.

In neuralgia, whether idiopathic or symptomatic, I have not found it very efficacious. Some headaches and hemicranias, when associated with nerve tire and malnutrition are greatly benefited by a course of phosphorus and electricity.

Next to insomnia functional impotence furnishes the most favorable field for the employment of phosphates. The inability to hold sexual congress is often due to psychical causes. It is also due to causes located in the genital nervous apparatus that are not organic in character. No remedy is more powerful than phosphorus in awakening the dormant activities of both the voluntary and involuntary fact of erection.

In the earlier stages of locomotor ataxia, it has seemed to me that very small doses of phosphorus have proved advantageous. This disease is preeminently of the degenerative type. The phosphorus exercises no specific effect upon the disease process, but it probably keeps alive the metabolic powers still remaining in the failing neurons, and so checks the downward course of the disease.

I need not do more than refer to the time-worn use of phosphorus in osteomalacia and rickets. Its trophic effects in these bone diseases are not to be doubted.

Without going further into detail, I want to urge a more extensive use, with at the same time a more guarded use, of this valuable remedy in all of those neuroses and nervous troubles in which malnutrition, metabolic insufficiency and protoplasmic failure are chiefly to blame. As a stimulant to cellular, protoplasmic metabolism, especially of the nervous system, our materia medica contains no more valuable agent, when properly administered, than phosphorus.

## CONCERNING THE ADMINISTRATION OF DRUGS.\*

By DELOS L. PARKER, M.D., DETROIT, MICHIGAN,  
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Of the numerous phases of this question I will confine myself to the one that has to do with the administration of drugs in relation to meals.

This subject is one of great importance and therefore one that should receive much attention from medical practitioners, writers and teachers. But does it receive the consideration it deserves? I do not think it does and I believe even a cursory glance through the part of any article of a standard work on practice, which is devoted to the medicinal treatment of a disease, or even a short talk with a student who is taking a course of lectures on this subject in any of our medical colleges, will convince anyone, who is inclined off-hand to doubt this statement, that I am right in this contention. Indeed there is often in text books and lectures such scant attention to the details of the administration of the drugs recommended that it would seem many times, as if our writers and lecturers had so used up their energies in giving a definition of the disease under consideration, together with its etiology, symptomatology, morbid anatomy, diagnosis, prognosis, duration, mortality, sequelæ and so forth, that when it came to the medicinal treatment they were able only to give a list of the therapeutic agents indicated, and then to fall back exhausted before they had time to give any specific directions concerning the administration of these medicinal substances.

It may be advanced that many of the principles involved in this question are elementary and have no place in a work on general practice. I do not think this meets the case, for the reason that it is the patient, and not the prescriber who suffers

\* Inaugural paper read before the Detroit Academy of Medicine, April 10, 1900. Reprinted from the *Physician and Surgeon*.

when there is a failure to administer the remedy exactly in the best form and at the proper time. So far as the patient is concerned the result is the same whether the person who is prescribing for him has never known the principle involved, or once knowing, has forgotten it. No one, on the other hand, has ever known too much of a subject, even if that subject has been a medical one. The question of giving a drug before, during or after a meal is often one difficult to decide. Not only must the object to be attained be taken into consideration but also the nature of the drug itself.

Some of the points to be considered in administering drugs by the stomach during digestion are the following: The drug may unite with some of the food or digestive fluids or both and produce an entirely new compound which may be either absolutely inert or may have effects absolutely different from those that had been expected. Or, again, on account of the food present, the drug, though unchanged, may be absorbed so slowly that the effects will be too long delayed to be of any value. When, on the other hand, the drug is given when the stomach is empty, the rate of absorption may be so rapid that too great an effect will be produced, or, in the case of the administration of irritating drugs, when no diluting food is present, damage may be done to the stomach itself. Again, certain drugs, as for instance some of those designed to assist digestion and nutrition, have to be given at a fixed time before or after a meal, in order to get the physiologic effects; and any departure from these exact rules will lessen or destroy the expected action. The following is a case in point:

A number of years ago a physician in the earlier years of his practice was treating a person suffering from the effects of over-production of uric acid in the system or in other words from the condition known as lithemia. He read through a rather lengthy article on the disease from the pen of a recognized authority on the

subject. Finally, at the end of it he was advised to administer ordinary doses of dilute nitric acid before meals. This was declared to be a specific in this class of cases. He did as he was directed and kept his patient on this drug for several days. Finding no relief he was about to discontinue its use when it occurred to him that perhaps he might get better results if he gave it, say a half hour before the meal, rather than just before, as he had been doing. This change was all that was needed. His patient made a rapid recovery. Numerous patients since have been equally fortunate. In this case, besides the extended suffering of the patient, the physician lost valuable time and came near losing the aid of a valuable agent for all his subsequent cases of a like nature. It is certainly safe to say that others, relying on this article, have followed these directions and that some have given up the use of the drug for the purpose named. All of which could have been avoided by explicit direction concerning the time of the administration of the drug as it related to the meal.

Another and commoner case is found in the administration of quinine. In various diseases, and more particularly in those of malarial origin, it is advised that this drug be given freely, even up to doses of a drachm or more. Nothing is said about the exact time these should be given. This question is left to the one prescribing. If he recalls the fact that this drug applied in its powdered form to the stomach walls often causes nausea, vomiting and even gastritis; and if he further recalls the fact that it is feebly soluble in an alkaline or neutral solution but freely so in an acid one he will direct the drug to be given from one-half to two hours after eating. By doing this he will have the stomach, walls protected by food and the contents of the same organ in an acid condition, a combination of circumstances that will avoid the disadvantages mentioned above. If he does not recall these characteristics of the drug the patient will have to suffer

the consequences of his ignorance or forgetfulness.

The whole danger would be avoided, however, if our text-books always contained explicit directions for the administration of any drug recommended for exhibition in treating a disease.

Again, the administration of iodine, in the form, say of the compound solution or of the tincture is often carried out improperly. Everybody, if he stops to think, knows that these substances combined with starch, form an insoluble compound, and he also knows that starch is practically always present in the stomach during the digestion of a meal. Therefore, if he is doing the best for his patient these remedies will be given, say an hour before meals, and well diluted with pure water. But if he is negligent they may be given during digestion and as a consequence the iodine and the starch of the food meet to form an iodide of starch—a substance about as valuable for medicinal purposes as a glass bead or a copper penny.

A late work on therapeutics uses these words in its article on iodine and its preparations: "As the iodides are easily decomposed, this fact must be borne in mind when prescribing them, and, as a rule, it is best to administer them simply dissolved in water or combined with other iodides." Not a word is said about the condition of the stomach or the danger of decomposition of the iodides by coming in contact with food products and gastric secretions. Out of sight, out of mind, seems to express the condition here.

The effects of a lack of precision in directions for the administration of drugs in reference to meals are not as bad as they formerly were. This desirable result has come about, however, not by greater attention to the subject under consideration, but rather by change in the form of drug administration itself.

The first of these changes to bring relief was the substitution of a simple prescription of one or two drugs for the old polypharmacy with its prescription of a dozen

or more ingredients, which, in administration, could not be made to unite upon any one time in reference to a meal, any more than the different meridians of an astigmatic eye could be made to focus upon a given point in space.

The second of these changes was the adoption of routes for the introduction of drugs into the system other than by the stomach. Of these the hypodermic one is much the commonest and the most important. All of them, however, are of the greatest value for the purposes in question as they can be made use of without regard to the stomach or its contents.

While the changes in the prescriptions themselves and in the routes by which the drugs are introduced into the system have done something to lessen the extent to which meals have interfered with drug medication, the greater part of the original question is still left to be solved. How can this be done? One thing is certain, the importance of the subject must be impressed much more deeply on the medical mind than it is to-day before any great result can be expected.

This paper is not intended to be a series of directions for bringing the most desirable consummation about. Its purpose is simply to call the attention of those present to a condition that should be changed, rather than to suggest a way by which this can be done, and to conclude by declaring that to the individual or group of individuals who may accomplish this change, heartfelt thanks will be extended not only from innumerable patients but also from a line of physicians extending from the recent graduate writing a prescription for his first patient to the old practitioner doing the same for his last.

CORYZA.—Pugnat, according to *Nouveaux remèdes*, for January 8, 1904, recommends the following method of making topical applications in coryza:

- R Cocaine hydrochlor. . . . 5 gm. (75 gr.)  
 Menthol . . . . . 5 gm. (75 gr.)  
 Liquid petrolatum . . . 100 gm. (3½ ozs.)

M. Use a small quantity every three hours.

—*N. Y. Med. Journal.*



*PAROTITIS EPIDEMICA.\**

By MARCUS P. HATFIELD, A. M., M. D., Chicago.

Professor of Diseases of Children, Northwestern University Medical School.

SYNONYMS: Mumps, Oreillons, Ourles, Fièvre Ourlienne, Ziegenpeter.

DEFINITION: An infectious disease which manifests itself by swelling of the salivary glands, especially the parotids, and may secondarily implicate other glandular tissue, such as the testicles, mammæ, thyroid, lachrymal and prostate glands.

## HISTORY AND ETIOLOGY.

Mumps has been known since the days of Hippocrates, who accurately described the disease and noted the frequency of complication with orchitis, and the usual mild course and favorable outcome of this form of parotitis. It is doubtful whether the contagiousness of mumps was recognized until about 1775, when Hamilton and Mangor wrote fully on the subject. Nurslings usually escape, and as a rule the disease is milder and less prone to complications with young children than with adults. No age is exempt, but as the disease is usually spread through schools, it is most frequently met with in children from five to fifteen years of age. It is claimed that boys are more liable to it than girls, but this is not the writer's experience.

ETIOLOGY: Laboratory experiments by Laveran and Catrin have failed to communicate the disease to the lower animals, although one writer claims to have seen a dog afflicted with mumps, which it was thought was taken from a boy who had charge of the dog. Mumps appear in epidemics, which spread chiefly among school children and soldiers in garrisons, irrespective of climate or nationality. Neither does heat or cold or humidity appear to at all influence the spread of the disease. Nor are all equally liable to the disease, which is much less contagious than

measles, scarlatina, or la grippe. Comby notes that he has often seen a case accidentally introduced into a school or orphan asylum run its course without other cases following, although no attempt at isolation was made. And yet while the disease is not highly contagious, it is possible to contract it by sleeping in a bed previously occupied by one suffering from it.

Little is known concerning the microbic origin of parotitis epidemica except that its contagion has little vitality outside the human body, and consequently cannot be easily carried from one person to another. Hence it is not unusual to see in a hospital the spread of the disease from bed to bed, stopped by a glass door or intercepting wall. Capitan (1881) thought he had succeeded in isolating from the blood and saliva the specific microbe of mumps, and Ollivier and Boinet (1885) described similar microorganisms obtained from the same source, which Bordas (1889) later named bacillus parotidis. Laveran and Catrin have elaborately experimented bacteriologically, and believe the pathognomic microbes can be found, not only in the blood and saliva, but also in the fluid obtained from puncture of the testicles and parotids during the disease.

## PATHOLOGY.

As epidemic parotitis is rarely fatal, there are few recorded autopsies to give us any positive knowledge on the subject. Virchow teaches that the parotid lesions are analogous to those of typhoid, but unlike the parotitis of other infectious diseases, rarely ends in suppuration. Jacob, who made a post-mortem on a soldier who died of edema of the glottis with intercurrent mumps, reports that the parotid glands were found filled with a greenish gelatinous serum which gave the tissue a lardaceous appearance.

Microscopical examination of the parotids by Ranvier gave no inflammatory lesions nor loss of epithelium, nor cellular proliferation. Similar examination of an atrophied testicle as a sequela of mumps

\* Fifth Paper in the Series on "Contagious Diseases of Childhood." Reprinted from the *Medical Standard*.

showed the tissues to be soft, pale, anemic and the seminal tubes small and fragile and according to Malassez often transformed into cords from increase of epithelium and thickened internal coat, constituting a true parenchymatous sclerosis of the testicle.

#### SYMPTOMS.

While it may be well theoretically to admit that mumps has a stage of incubation, a prodromal stage and one of typical development, this division is of more value scientifically than of practical use, for during the stage of incubation there are no symptoms and the symptoms of the prodromal stage are vague and of no clinical value.

Its incubation is the longest of any of the infectious diseases—usually between 14 and 21 days or even a few days longer, though three weeks may be said to be the general rule.

The first thing that usually attracts attention is slight fever, loss of appetite and malaise with or without chilliness. Redness of the pharynx or enlarged tonsils invariably precede the swelling of the parotids, and earache, on one side or both, is a frequent accompaniment. Headache, nosebleed and somnolence are the not infrequent. All of the salivary glands parotid, submaxillary and sublingual may be implicated, but the parotids are ones usually affected and by their swelling give a characteristic stupid look to the face from which appearance the disease probably derives its name mumps, from a Dutch word meaning to mumble or talk unintelligently.

This swelling is painful to pressure and interferes with swallowing and the motion of the jaws, sometimes producing almost trismus, but without the redness of the skin or the heat of erysipelas. Sooner or later both parotid glands become involved, but usually not simultaneously, generally two or three days apart. There is little decided pain except upon pressure, but the swelling may be so great as to embrace the whole neck and extend down to the clavicles. The glandular swelling may

be great enough, not only to produce localized edema of the neck, but also of the lids and upper part of the face and dilatation of the temporal veins. This condition is transient, for the parotid swelling comes on rapidly, ought to reach its height in 3 days, but epidemic parotitis is a disease prone to relapses and in some cases resolution of the glands is exceedingly slow.

Submaxillary swelling is next in frequency and may entirely take the place of the ordinary parotid enlargement or may persist in the submaxillaries after it has left the parotids. Sublingual mumps is still more infrequent. As has already been noted redness of the pharynx and tonsils accompanies mumps and like erythema may attack the buccal mucous membrane constituting the "stomatite ourlienene" of guinean which is attended with acid salivation, pullaceous patches and a disagreeable breath.

Fever is usually moderate in range, but may be attended with anorexia, increased thirst, vomiting and various nervous disturbances such as insomnia, night terrors, delirium and very rarely convulsions. Ordinarily the disease runs an uncomplicated course and with children ought to reach convalescence in a week, although relapses due to imprudence are not uncommon. In a typical case the enlarged glands ought to quickly "return to their normal size in about a week, leaving no induration nor inflammation behind. Suppuration is very exceptional, especially with children, and when it occurs, according to Catrin, is due to secondary infection which might have been prevented by better antisepsis.

#### COMPLICATIONS.

Orchitis in the male and ovaritis in the female are the complications chiefly to be dreaded, but these are fortunately infrequent with young children. After puberty it is different, and mastitis may be met with in both boys and girls. Dysentery and peritonitis are exceptions, but possible.

Inflammation of the thyroid or lachrymal glands have also been noted, but these do not ordinarily proceed to suppuration. The same is true of the lymphatics of the neck which are apt to become swollen and of slow resolution in scrofulous children, but are without serious import.

The possibility of a grave nephritis following mumps should be kept in mind, for, according to Catrin, albuminuria was found in 30 per cent. of his cases and anasasca may subsequently appear. Ascites and haematuria have been noted in other cases, but death from renal complications is fortunately rare in parotitis epidemica. Rheumatic pains with or without attending peri- or endo-carditis may occur in children who have previously suffered from rheumatism, but these complications disappear with the disappearance of the mumps even more rapidly and completely than the analogous rheumatic complications of scarlatina.

The nervous system is sometimes seriously poisoned by the toxins of mumps, especially in neurotic children. Convulsions and meningitis are the most serious of these, though insanity and dementias as sequelae of epidemic parotitis are noted by Comby as prone to occur in cases complicated with orchitis. Some of these lesions, as aphasia or various paralyses, may long persist after other recovery, analogously to the paralyses of diphtheria. Eye complications such as conjunctivitis, paralysis of accommodation, dacrocystitis are possible, but infrequent; the contrary is true of ear troubles, for earache, deafness, vertigo, buzzing in the ears are to be expected in most cases and in some cases permanent atrophy of the aural nerves is the final result (Roosa).

This possibility should be borne in mind even in mild cases and the further possibility of extension from the middle ear to the meninges of the brain will doubtless explain the cases of meningitis which follow parotitis. H. F. Harris in a recent article in the *Boston Medical and Surgical Journal* reports a case of diabetes mellitus

directly following an attack of mumps. From the close analogy in function of the salivary glands and pancreas it is at least thinkable that pancreatic diabetes may result and this may explain some otherwise inexplicable cases of diabetes in children.

#### DIFFERENTIATION.

The differential diagnosis of a given case of mumps is not always easy without the presence of an epidemic at the same time. This is made more difficult if the submaxillary and cervical glands are equally or more implicated than the parotids and in which case the diagnosis must be established by full clinical history, remembering that mumps is a disease of short duration, and its swelling is more symmetrical than that of adenitis. Other forms of parotitis are generally unilateral, harder, more painful and as a rule terminate in suppuration. Such glandular swelling can be usually referred to some previous affection of the face or ear or throat, as the latter often give rise to lymphatic engorgement at the angle of the jaw, which could easily be mistaken for mumps, but are slower of resolution and have a previous history on well marked sore throat. It need hardly be added that the old wives pickle test is of no value and generally fallacious.

#### PROGNOSIS.

Mumps is usually regarded as a trivial disease and fatal cases are exceedingly rare. On the other hand it should be remembered that epidemic parotitis may have behind it irreparable injuries such as permanent deafness, atrophy of the testicles, or chronic ovarian disease, though the tendency to such complications increases with the age of the child. Death has been reported from gangrene of the parotids, cervical abscess, acute nephritis and meningitis subsequent to mumps.

#### PROPHYLAXIS.

Mumps is ordinarily so mild a disease with children that it is doubtful whether it is desirable to attempt quarantine. If isolation is attempted it should be remem-



bered that the disease is contagious even before the swelling of the parotids, and quarantine to be effective should be continued for 25 or 30 days. Roth believes the contagion may be carried on clothing, soiled linen, bedding, etc., and hence advises local disinfection before further use of the rooms in which those sick with the mumps have been confined.

#### TREATMENT.

Since the disease has usually a mild and self-limited course little or no medication is required in ordinary cases. With children the rest and warmth of a bed is desirable, but not absolutely necessary except during the stage of feverishness. The loss of appetite, coated tongue, sluggish bowels rarely call for anything more active than cascara, or small doses of calomel followed by citrate of magnesia and slight diet. Soups, broths and bread and milk are most easily swallowed, and should be advised to the exclusion of meat on account of possible kidney complications. Antiseptic gargles and sprays diminish the probability of later ear troubles, especially where there is coincident angina.

Where there is restlessness and fever lactophenine will be found useful, especially in cases with threatening meningeal complications. Antipyrine is valuable when prompt reduction of temperature is necessary. Small doses of the same will often relieve earache where local applications have failed.

Poulticing or rubbing the swollen parotids is worse than useless; the best treatment is to let them severely alone, or cover them lightly with cotton wool held in place by an appropriate bandage.

Orchitis demands absolute rest in bed, elevation of the scrotum on a pillow or pad and the use of warm fermentations, one of the best of which is made with aconite leaves and ammonia muriate (1½ oz to 1 pint). Ovaritis and meningitis demand such treatment as they ordinarily receive.

#### THERAPEUTIC NOTES.

TO REMOVE VEGETATIONS from the external genitals salicylic acid is an excellent remedy. Dissolve half a drachm in an ounce of acetic acid, and apply to parts with a camel's hair brush.—*Southern Clinic*.

#### SQUIBBS' CHOLERA MIXTURE.—

R Tinct. opii.....  
Tinct. capsici.....  
Spts. camphoræ.....āā     ℥i.  
Chloroformi.....     ℥iii.  
Alcoholis.....     ℥v.

M. Dose, 20 to 40 minims. —*Med. Record*.

ACUTE BRONCHITIS IN INFANTS.—J. B. Norman speaks very highly of apomorphine as an expectorant in these cases. He gives 1/1000 grain every two hours. He has observed great benefit from combining strychnine with the apomorphine.—*Kansas City Medical Index-Lancet*.

#### FETID BREATH.—

R Inf. sage.....2 50.0  
Glycerin, pure..... 30.0  
Tinct. myrrh.....  
Tinct. lavender.....āā 12.0  
Laborraque's solution..... 30.0

M. et. S. Mouth wash, as required.

When due to gastric fermentation, wood charcoal in dose of ten grains every three hours.—*Campbell*.

CHLOROFORM AS A TENIAFUGE.—According to Dr. Leger, in the *Medical Press (Medical Record)*, chloroform is as efficacious in the treatment of tapeworm as is male fern, etc. He uses the following mixture:

Chloroformi..... ℥i.  
Syrupi..... ℥i.  
Aque..... ℥iv.

A quarter of this is to be taken every three-quarters of an hour, and before the last dose a purgative of castor oil or tincture of jalap is given.

Here is a formula also widely used.

Oleores. Malefern.....7 min.  
Oil Erigeron.....1 min.  
Castor Oil.....8 min.  
Croton Oil.....1 min.  
Chloral.....3 grains.

In one soft elastic capsule. Take as indicated or limited in each case.

# THE AMERICAN THERAPIST.

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## Editorial.

### EDITORIAL NOTES.

THE METHODS of treatment for gonorrhea advocated by genito-urinary specialists are as varied, and even contradictory, as in any other phase of medical practice. Considering the history of Methylene-blue, and particularly the record of its use in the affection (or affliction) named, there is no longer room for doubt of its value; methylene-blue, in suitable combination, comes as near to being a specific in the treatment of gonorrhea as any therapeutic agent or combination known. Dr. BENNETT adds a brief record of his experience and views, in this issue, to the numerous similar testimony published in our columns heretofore, and his paper will no doubt interest the reader.

\* \* \*

THE VALUE of phosphorus in medical practice, though perhaps known, is not so well appreciated by actual use as should be the case. There are reasons for this neglect, no doubt, and possibly the lack of a thoroughly acceptable compound for dispensing may be the cause. Lack of interest, where so many other agents are pressing for recognition in the same line, may also explain this apathy. Dr. METTLER, whose excellent presentation of the subject we reprint on another page, furnishes a very complete and authoritative review, and his invitation to "a more extensive use, with at the same time a more guarded use, of this valuable remedy" should find willing response.

ALL physiological research in the domain of iron therapy during recent years points overwhelmingly to the superiority of the organic combination, and clinical experience, as recorded by competent observers in all parts of the world, has been more favorable to the use of the iron compound known as pepto-mangan than for any other official or popular agent known. The article which we furnish in translation in this issue summarizes the facts tersely and will be found readable and suggestive.

\* \* \*

IN THE RUSH into print and the voluminous aggregate of medical literature, most of the material becomes ephemeral and passes into oblivion. We rescue an admirable essay on "the administration of drugs" from this fate; and, though published four years ago, we believe our readers will find Dr. PARKER's paper on another page as true and timely to-day as then.

\* \* \*

WE DO NOT KNOW whether or not Dr. HATFIELD's series of papers on "Contagious Diseases of Childhood" were reprinted in book-form; if not, they should be, and would make a very practical and valuable work of reference. We have kept them on file as issued, and we reprint one of the series, on "Parotitis Epidemica," in this issue, relying on the discerning reader to appreciate it and perhaps be prompted to seek for the other equally valuable papers that made up the series.

\* \* \*

WHAT IS the average dose of pure castor oil for an adult? The text books say from 1 to 8 drams. The layman gets an ounce from the druggist and swallows it. The soda-water clerk, who makes a specialty of compounding a tasteless castor oil drink, puts in over an ounce as a rule. We have found that one 40 minim capsule of castor oil acts as a mild, speedy and non-gripping laxative; sometimes it takes two capsules. Will not some reader favor us with an article on the therapeutics and dosage of castor oil?

## Current Literature.

**METHYLENE BLUE IN DIARRHEA.**—Combe-male of Lille strongly recommends the use of this drug in all forms of rebellious diarrhea. He thinks it is particularly indicated in infectious cases, such as those due to typhoid fever, etc. The dose is one grain three times a day.—*Medical Press.*

**IODIDES PER RECTUM.**—For patients in whom the internal administration of iodides produces gastric disorders, v. Zeissl advises its administration per rectum. He uses sodium or lithium iodide 3 ss to water  $\bar{3}$  i, with 5 minims of laudanum, injected through a Nelaton catheter.—*Die ärztliche Praxis.*—*Medical Record.*

**PILOCARPINE** is a specific for jaundice, and relieves all forms of itching, with the exception of that due to hepatic cancer. Locomotor ataxia and tetanus have been repeatedly reported cured by the administration of large doses of pilocarpine. The dose is gr.  $\frac{1}{67}$  to  $\frac{1}{22}$  every five minutes till sweating or salivation begins to appear.—*The Southern Clinic.*

**THORIUM:** A Radio-active Substance with Therapeutical Possibilities.—Dr. S.G. Tracy writes on this subject in the *Medical Record*, January 23, 1904, (*N. Y. Med. Journal*) treating of the therapeutic possibilities of thorium, which is one of the four radio-active substances known. Its radio-activity is many thousand times less than the radio-activity of radium. So is its price. Experiments have shown that thorium emanations are antiseptic, antifermentative, and inimical to germ life. The author describes the method of using thorium emanations in the treatment of tuberculosis. The lung tissue is said to become radioactive, and remain so for about two days after each inhalation. The author does not state what the results on the tuberculous process have been shown to be.

**GASTRIC ULCER.**—J. B. Woodville, in the *Therapeutic Gazette* for October, advises the treatment of gastric ulcer with large doses of subnitrate of bismuth. In treating gastric ulcer, he restricts the diet within narrow limits, allowing nothing by the mouth save sweet milk in such quantities as can be easily digested in each individual case. He also allows the white of one or two eggs beaten up in half a glass of water at intervals of three or four hours. Further nourishment is given per rectum if needed. The subnitrate of bismuth is given in doses of 45 to 120 grains suspended in half a glass of milk three times a day, and is continued without intermission for three weeks. Usually at the end of this time he begins to gradually increase the diet by the addition of animal broths, soft boiled eggs and crackers. He has never seen any indication of poisoning by these large doses of bismuth. He keeps the bowels open by daily rectal injections, giving no cathartic by the mouth.—*Cleveland Medical Journal.*

**WHAT DRUGS CAN ONE USE AGAINST DIABETES?**—Kaufman in *Gazz. degli osped.*, October 6, 1903 (*Medical News*) makes a systematic study of various methods of treatment of diabetes. In 11 observations, opium or its alkaloids were used, six times successfully, three times unsuccessfully, two with doubtful results. Bromides are useful where glycosuria is combined with neurasthenia. Bi-chloride of mercury diminished the sugar in many cases, but was without result in one-third of the patients. Carbolic acid was without effect in 11 cases of grave glycosuria; in five cases there were some results, in two cases the result was favorable. Salicylates had no harmful results, except in diminishing the appetite. Salol worked better. Antipyrine administered to seven diabetics had no effect except in disordering the gastro-intestinal tract. Piperazine increased the glycosuria in one case. Jumbul, in two cases, produced a distinct improvement, in three the effect was



slight, and in two was absolutely negative. The author concludes that opium, salicylates and jumbul are the only drugs that modify glycosuria; he advises opium in severe cases with serious complications, and salicylates in milder cases or after a course of opium treatment.

VERATRUM VIRIDE IN SURGICAL AND OBSTETRICAL PRACTICE.—The *New York Medical Journal*, in reporting the proceedings of the American Association of Obstetrician and Gynecologists, summarizes above paper as follows: Dr. Charles L. Bonifield, of Cincinnati, Ohio, in a paper on this subject, said that the physiological action of veratrum had been carefully studied by Dr. H. C. Wood, who says that "it is a cardiac and spinal depressant." Veratrum slowed the pulse, but the author did not believe that it lessened the force of the beat, when used medicinally, except that it produced nausea. It stimulated the liver, kidneys, skin, and salivary glands, and it lowered temperature and relieved inflammatory pain by its effect. These properties made it valuable in the treatment of localized peritonitis. In appendicitis the appendix should, if possible, be removed during the first twenty-four hours. When this could not be done the Ochsner treatment should be given, supplemented by the hypodermic administration of veratrum.

Acute salpingitis was usually treated by hot and cold local applications to influence the circulation. These were valuable, but the circulation could be more profoundly affected with veratrum, and it was therefore more valuable. Local treatment could, however, be used at the same time the veratrum was, with advantage.

In the treatment of post-operative peritonitis free purgation was of the greatest importance, and should never be neglected. But, in some cases, after the bowels had been thoroughly evacuated, the exceedingly rapid action of the heart indicated that that organ would exhaust itself before convalescence could be established.

In this condition there was no drug equal to veratrum. It was superior to strychnine or digitalis because, while they might stimulate the heart to act for a time with renewed vigor, it made the work of the heart easier, and gave it a chance to rest between beats.

Although veratrum had been used for thirty years in the treatment of eclampsia by a considerable number of practitioners without a fatality, it was acknowledged by everyone who had given it a thorough trial to be superior to chloroform, morphine, or any other drug in general use. Obstetrical text books, almost without exception, failed to recommend it with any enthusiasm. Valuable papers had been presented by Jewett and Reamy to the American Gynecological Society on the use of this drug; also, a paper read by Dr. A. B. Isham on the general use of the drug before the Cincinnati Academy of Medicine, was published in the *Philadelphia Medical News*.

THE MODERN TREATMENT OF WOUNDS.—Walter Lathrop (*Amer. Medicine*, January 23, 1904.—*Medical Record*) states that he has had under his care during the past four years nearly two thousand wounds of various kinds. The majority of wounds which railway surgeons are called upon to treat are of the lacerated variety. In treating this type of wound, hemorrhage should be checked, and the wound and surrounding parts then carefully cleansed. If the injury is severe, the patient should be etherized, so that the cleaning of the wound may be thorough. The writer prefers formaldehyde soap, 10 per cent., to begin with, followed by mercuric chloride solution and sterile water. The skin is trimmed where it is necessary, and the wound converted, as nearly as possible, into an incised one. Severed tendons are united, and the injured member dressed with sterilized gauze and cotton. A dusting powder may be used if advisable. Drainage is sometimes necessary. The writer then uses sterile or iodoform (5 per

cent.) gauze. If the wound have clean-cut edges, the aseptic procedure should be thorough in order that primary union may take place. The subject of infection is most important. The writer believes that the injudicious use of poultices is the cause of more cases of infected wounds, abscesses, diffuse cellulitis, and septicæmia than any other agent except direct infection. The common poultice is a hot-bed for bacteria. The one great agent in combating infection is carbolic acid. In cases seen late in which the septic process has invaded the system, the use of anti-streptococcus serum is very valuable. In gunshot wounds of the extremities the Röntgen ray is a great help in locating the bullet, and makes its removal easy.

**NEPHRITIS.**—W. S. Gordon, in the *Medical News* for November 28, (abstracted in *Cleveland Medical Journal*) states that in the treatment of acute nephritis complete abstinence from food for a while may be of great service, while in chronic nephritis the condition of the blood is such that it must be enriched, and the kidney nourished while its work is diminished. He believes that an exclusive milk diet so often recommended for nephritis may do harm by being abused, and furnishing too much urea, by causing constipation and absorption of toxins, by failing to supply the blood with sufficient nourishment, or by setting up lactic or butyric fermentation. The diet should be suited to the case and a routine diet for all cases is unscientific and should be avoided. In chronic cases irritating diuretics may do harm, but we are fortunate in possessing many agents which are non-irritating and productive of the greatest benefit. It is well to remember that an efficient cholagogue administered before the diuretic or in conjunction with it is a powerful auxiliary in the treatment. Free biliary secretion and open bowels are frequently sufficient to produce a prompt change for the better in the patient's condition. The usefulness of diaphoretics, particularly in acute cases of

nephritis, cannot be questioned, and for emergencies pilocarpin stands at the head for efficacy and promptness. Depression may accompany its action, but used with caution, and in cases of uremia, with a strong and tense pulse, it is capable of changing the condition of the patient from one of imminent danger to one of comparative or complete safety. Nitroglycerin is sometimes invaluable; iron stands pre-eminent when anemia has set in and the blood vessels need nourishing and strengthening. He confesses to a growing confidence in the old tincture of the chlorid of iron and bichlorid of mercury, dilute hydrochloric acid, and liquor of the chlorid of arsenic are valuable auxiliaries.

**SEASICKNESS; ETIOLOGY AND PROPHYLAXIS.**—E. K. Shelmerdine (in *Amer. Medicine*, Jan. 2, 1904, abstracted in *Medical Record*) attributes seasickness to three factors, acting together or independently—mechanical, mental, and the irritating influence of the bile in the stomach. In walking on ship-board, the individual undergoes many muscular contractions. The muscles of the trunk and legs are made to undergo excessive activity, and the diaphragm is elevated by the muscles of the chest during inspiration. Many go on board ship in a bilious condition. From muscular contractions and pressure, the bile is forced into the intestines. The elevation of the diaphragm causes a negative pressure in the stomach, and the abdominal pressure, aided by constipation, causes the bile to flow into the stomach. The bile is a foreign body in the stomach and excites vomiting. Prophylaxis should begin ten days before sailing: Podophyllin, 3 mg. ( $\frac{1}{10}$  gr.) four times daily. On the third, sixth and the day before sailing calomel is given—.13 gm. (2 grs.) in divided doses. The night before sailing, a bottle of magnesium citrate should be given. Five days before sailing, sodium bromide, .32 gm. (.5 grs.) twice daily, is given, and this is continued until "sealegs" are acquired. The bowels must be kept loose on shipboard.

The main object is to cleanse the bowels and get rid of as much bile as possible. In cases of persistent vomiting, washing out the stomach and bowel is beneficial. Strapping the chest will quiet the stomach. The body should be relaxed and not held stiff. It should follow as far as possible the movements of the ship. There is also a nervous element in seasickness which causes lack of confidence in one's ability to navigate.

**LYSOFORM.**—Lysoform really seems to have properties which make it far superior to other disinfectants, according to B. Galli-Valerio (*Therap. Monatsh.*, September, 1903—*Med. News.*) Nickeled instruments, even if kept for months in a three-per cent. solution are not attacked. Used for the hands in 3 to 10 per cent. solution, it deodorizes and renders the skin smooth. A 1 to 2 per cent. solution is serviceable as mouthwash. Animal experiments show no or only slight toxic action. Feces and urine mixed with small quantities of the drug were still odorless after three months. Colon bacilli did not grow, even in weak dilution, and experimental peritonitis in guinea-pigs could be cured by intraperitoneal injections of a 2 per cent. solution.

**THOUGHTS ON CHLORINE AND AN ANTISEPTIC TECHNIQUE.**—Douglas H. Stewart states that after testing many soaps the ordinary brown laundry variety always seemed sterile, but he has never seen sterility of the hands from the use of any soap. If soap is eliminated from the technique, the following method is suggested: Mix a heaping teaspoonful of calc. chlorat., of table salt and of aq. ammoniæ in a quart of cold water; bleach and cleanse the hands therein, and they will often be sterile. Special attention should be paid to the nails—powdered pumice stick and brush being used. Chlorinated lime under and around the margins of the nails is very cleansing. In the case of pregnant women, the advice is given to daily wash the mons veneris and all about the private

parts with water, two quarts, a heaping teaspoonful of calx of salt and a half teaspoonful of pot. carb. This is allowed to dry on the skin. The following method of sterilizing the hands is given: Five minutes mechanical—pumice, brush, hot water, green soap, and wooden nail cleaners. Five minutes chemical—two heaping teaspoonfuls of fresh calx chlorat. and one teaspoonful of U. S. P. acetic acid to the pint of sterile water. It should be remembered that all chlorine solutions depreciate very rapidly.—*Medical Record*, from *Medical News*, January 2, 1904.

**PREVENTION OF THE SPREAD OF RINGWORM.**—F. H. Beadles (*Medical News*, January 23, 1904), states that it has long been undisputed that the various lesions described under the title of ringworm are due to the presence of a vegetable parasite in the epidermis, hair follicles, hair, of nails. Many valuable additions have been made of late years to our knowledge of ringworm fungi. The writer points out some of the mediums of transmission. Among these may be mentioned some of the lower animals, as the dog, cat, bird, horse, cow, mouse, sheep, and many others. The nearer a fungus is to its animal origin the more rapid its growth. It loses its vitality by human transmission. Animals are not entirely responsible for the transmission of this disease. There are excellent opportunities for its diffusion in barber shops, bath houses, asylums, day nurseries, and public schools. The disease is not conveyed by the razor, but by the barber's hands, or by towels; but most often by the lathering brush. The child often catches the disease in having his hair cut by the barber. The patient under treatment should be required to sleep alone and use separate towels, combs and brushes, these articles frequently sterilized to prevent reinfection. All domestic animals or pets which are found to be mangy should be either destroyed or isolated until, by proper care, they can be reentered incapable of the transmission of the fungus.—*Medical Record*.



# The American Therapist.

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## Original Articles.

### *PSYCHOTHERAPY.*

By J. W. WAINWRIGHT, M.D., New York City.

Psychotherapy is the remedial influence springing from the application of hypnotism for the relief and cure of ailments. The proper execution of this procedure demands a due appreciation of the exact nature of hypnotism. At the best we can merely ally hypnotism to an induced sleep by the agency of suggestion. During the period of repose, as in sleep, judgment and inhibition being in abeyance, suggestions made to the subject are carried into effect by the receptive faculties still remaining intact.

It is absolutely essential to gain the confidence of the subject, and for this reason it is asserted authoritatively that intelligent subjects lend themselves easier to hypnotism than ignorant individuals. Preliminary to inducing the hypnotic state it may be advisable that the prospective subject should witness such procedures, have impressed on him the ease of their execution and the lack of after-effects of any ill nature.

To bring the individual under the suggestive control he must be put into the hypnotic state. A good method is to secure a fixation of the eyes, that merges into drowsiness, after a while bordering on sleep. At the moment when a vague expression manifests itself gentle pressure is to be made on the lids and the forehead slightly crowded down on the lids.

By gently stroking the extremities, the suggestion of a tired feeling is imparted to them. The suggestion as to the disap-

pearance of any ailing ought to precede the hypnosis.

Authorities see no danger in hypnotism of itself, but only in the suggestions which may be comparable to the knife in unskilled hands. The hypnotizer as well as subject should always have a third party present for legal reasons. Hypnotism is not as harmful as the use of morphin or even chloroform, which also induce sleep.

For the relief of the pains of tabes, if only temporary, an easement of the mind is brought about which insures sleep, inspires confidence, in the wake of which follow good appetite and increased strength. Instances are cited of the capability to render labor painless, and many are the cures of alcoholism and morphinism effected by hypnotism. But above all, the domain for hypnotism is the relief of minor ailments, aches, agonies and perturbations of the mind, not associated with any distinct organic condition. The tractable minds of children are particularly amenable to hypnotism, and chorea is cited as being easily controlled by hypnotic suggestion. The ease of hypnotizing depends on the skill of the hypnotizer who must be endowed with endless patience and rich in resources to give varied form to his suggestions making for a cure.

Anemics, subject to a host of minor ailments which constitute their disease, are well suited for cure by hypnotic suggestion. The pains of rheumatism and the depression of tuberculous patients are also open to the influence of hypnotic suggestion. This is taking advantage only of the psychical phenomena of these diseases; their organic origin remains untouched and therefore requires medicinal treatment.

Nervous headaches and severe neuralgias in due process of time yield to hypnotic suggestion.

This enumeration, it may be said, is merely claimed, not proven, for the "modus operandi" depends on the searching nature of the hypnotizer to fathom the temperament of the patient and deport himself with dignity and never betray by word or deed any doubt in the eventual restoration. In short, the height of self-control must be practiced by the hypnotizer. The most commonplace and concrete instance of hypnotism is the use of medicinal agents void of any specific effect towards the particular symptom complained of, yet which are effective in a surprising degree in the removal of the disturbing phenomena.

These measures we are wont to call placebos, and they are legitimately applied by practitioners daily. This is exemplified as follows: The administration of aromatic spirits of ammonia three times daily in a healed fracture of the arm to strengthen the limb, to be taken for two weeks. The patient *at the expiration of this interval of time* returns benefitted and asks for more medicine. The thoughtful physician complies, thoroughly mindful though of the futility of this agent. The *taking* of the medicine thrice a day for an avowed purpose operates so powerfully on the mind, that the slow workings of time do not annoy him. Many instances might be multiplied of such suggestive therapy which can, if necessary, be carried to the extent of actual hypnosis. Honestly practiced *by the physician* psychotherapy, and not the hypnotism of the wandering showman, constitutes a legitimate practice and powerful weapon in the hands of the scrupulous medical adviser. Much, but not many things, can be cured by some form of psychotherapy.

In conclusion we would cite the powerful influence that sound has on the mind. The use of the flute by the snake charmer is an instance under consideration. From this primitive yet fundamental use of

music it is but a step to the sounding of a gong for a long period to induce hypnosis. This was practiced by Charcot at the Salpêtrière. It is also an extensive practice in insane asylums to play music for the inmates. The martial music of the most primitive tribes and the sublime funeral dirge alike bear testimony to the powerful operation of music on the mind in health and perhaps disease.

### RESPIRATORY AFFECTIONS: SYMPTOMS AND THEIR TREATMENT.

By JUSTIN HEROLD, A.M., M.D.

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Mathematical precision, it must be admitted, has its place no less in medicine than in its legitimate field in the study of the higher classics. This precision, in the therapeutic sense, applies to the exact dosage of preparations used by the busy practitioner in his every-day experience. How often do we attain proper results from the use of drugs; how often results that are not only improper, but even dangerous! Precision in dosage can only be obtained by constant study on the part of our co-laborer, the pharmaceutical chemist—study embodying experimentation, the comparing of results, re-experimentation, and, finally, the circulation of the decisive product in the hands of the practitioner.

The past few months have afforded me, and no doubt others, opportunities to test the efficacy of the therapeutic qualities of the various remedies vaunted as certain to relieve the harassing symptoms attendant on the diseases produced by the bacillus of that nineteenth-century infant, "La Grippe."

I refer to this epidemic particularly, because it had not manifested itself in such virulent form since the memorable gripe

epidemic of 1889. The author of this paper, in the past few months, has had occasion to employ the several preparations recommended for the relief of the distressing respiratory symptoms attendant upon "la grippe." These manifestations, from my view-point, have been characterized principally by cough and dyspnea, in other words, "dyspneic cough." Expectorant mixtures, anodyne solutions, together with hypodermic medication, produced in me a disgust; and why? Simply and undeniably for the reason that the ordinary cough mixtures contain the opium preparations in such combinations as to leave a depressing effect, which, especially in cases of the grippe of the "depressing or melancholic" type, enhances the already depressed feeling. Combinations of expectorants with stimulating ingredients had no less the same effect.

The feelings of the physician are not heightened when his "stand-bys" serve him so poorly; neither are the feelings of the patient calculated to give him increased confidence in his physician. Where lies the fault—in the opium, in the morphine, in the codeine, in the heroin? No, the fault lies in the unstable (or whatever you may call it) combination, or ill-combined ingredients. In seeking for a remedy to relieve the harassing night cough of an attack of "bronchitis due to grippe," in a member of my own family, I chanced to come across a preparation of heroin, which, of all remedies tried, gave relief. I refer to glyco-heroin (Smith).

Glyco-heroin, in all the cases in which I have used it, has never caused vomiting, an important point for the physician. Is not the stomach the physician's best friend in the treatment of disease other than obstructive or malignant affections? Another important point noted was that this preparation of heroin—glyco-heroin (Smith)—never played pranks with the structures composing the vaso-motor system. Now, what do we, in treating disease, want in addition to a good stomach and a stable nervous attachment? We

want rapid action. That I effected through the use of glyco-heroin.

You cannot produce toxic effects with this preparation, as its effects are lasting, and in most cases do not necessitate the use of the drug at very frequent intervals. Glyco-heroin allays cough, without doubt better than any remedy I have used this winter. And that without the sometimes disastrous results of other preparations of the papaver group. Respiration is stimulated, not in number, but in the depth of the inspiratory act, thus full and complete oxygenation takes place, an important adjunct to the helpful effects of drugs in general, and saving the patient that expensive tank of oxygen. Given full and complete oxygenation, all other symptoms must accordingly diminish, thus temperature and pulse-rate are reduced to a normal condition. Elimination of noxious products not being interfered with, the excretion of urine is brought to the normal under the use of glyco-heroin. It is well known that diminished quantity of urine follows as a result of inflammatory diseases of the respiratory tract; thus the standard quantity of urine is enhanced by the judicious use of glyco-heroin. In the case of tuberculosis it acts not only as a respiratory sedative, but also as a stimulating expectorant, as the following case will attest.

Case 1.—Pulmonary tuberculosis, stage of cavities. — W. B. C., aged 28 years, suffering from cough, expectoration, emaciation, loss of appetite, loss of sleep, inability to lie in certain positions, of eight years' duration, weight 122 lbs. Physical examination revealed a number of cavities in both lungs, although the laboratory tests did not show any tubercle bacilli. Guaiacol, arsenic, eucalyptus, ichthyol, and creosote benefitted him but imaginatively. Glyco-heroin in doses of one teaspoonful every two hours, to start with, to be taken from 8 A.M. to 6 P.M., benefitted him to such a degree that, to quote from his letter to me, he "gained four



pounds in four weeks." Lungs appear to take on a better action as regards respiration, thus giving him, indirectly, proper sleep, followed by the ability to eat with a relish. Coughs little at night; advised him to expectorate forcibly during day. Patient now finds relief by taking his doses every eight hours.

Now, why this beneficial action in tubercular disease, for this case was taken at random from my case-book, as are all the other cases. Simply because glyco-heroin loosens cough, promotes the throwing-off of the noxious material from the lung-cavities, and thus gives relief, breathing becomes easy, oxygenation takes place with renewed vigor, and, by careful attention as regards regulation of dosage, patients of this class may live many years in comparative comfort as regards distressful symptoms.

Case 2.—Acute laryngitis.—Geo. F. N., aged 14 years. Coasting, perspiration, and no overcoat, a good combination to bring on an acutely-inflamed laryngeal mucous membrane. Pain on swallowing, talks in whispers, temperature 101.5° F., pulse 135, respirations 23, cough, barking like dog, uncomplicated case of laryngeal inflammation. Stokes' expectorant did not relieve, seemed to increase cough. Glyco-heroin, full doses of one teaspoonful every three hours, while producing much sleepiness, reduced inflammation, cough, and pain in three days. I then combined it with squills and syr. bals. tolu, to be given every four hours until completely relieved.

Glyco-heroin, in cases of laryngitis, seems to me to take the place of all heretofore vaunted sure cures, without reservation. Vomiting from the use of opium, morphine, codeine, etc., always delays a cure in cases of laryngitis; not so with glyco-heroin, which in my hands thus far has not produced vomiting.

Case 3.—Chronic bronchitis, asthma, and emphysema.—Mrs. H. D., aged 44, has had asthmatic attacks, every Fall and Spring, for the past eleven years; not in

Winter, but only at the beginning and end of seasons. Iodides, senega, squills, digitalis, and cupping gave relief, but with the penalty of a return of more severe attacks. Dyspnea, cough, and expectoration, in this case, was something frightful to witness. In this case, prompt hypodermic injection of  $\frac{1}{8}$  grain of morphia relieved somewhat, followed by the use of glyco-heroin, one teaspoonful every hour for three doses, then every four hours, and on the third day every six hours. In this case the glyco-heroin seemed to continue the effect of the morphia.

A new point in favor of glyco-heroin is that it enhances the effect of morphia when given hypodermically. Although in seven other cases of asthma, with attacks similar to the above, glyco-heroin was administered, in two-hourly doses, with the remarkable effect that the cough and dyspnea ceased within four hours.

Case 4.—Pharyngitis.—Miss D. F., aged 17 years, complained of fever, hoarseness, cough, and soreness in throat. Culture of reddened throat did not reveal any streptococci or Klebs-Löffler bacilli. Glyco-heroin, given every three hours, cured in two days. The after-cough was removed in four more days, by the administration of glyco-heroin in doses of one teaspoonful every six hours.

Case 5.—Acute Bronchitis.—Carl F., aged 22 years; chills, fever, soreness of throat, pain on swallowing; cough dry, no expectoration; glyco-heroin, one teaspoonful every two hours, promoted expectoration, changed the character of the cough, and gave relief in a most happy manner. In my opinion there is no doubt that patient would have ended up in a pneumonia, unless he was relieved inside of 48 hours. As regards his cough, character of it was so completely changed that the bronchial disease seemed to "flow from him," as it were.

In whooping-cough, 22 cases from my case-book show that I prescribed glyco-heroin with permanent and speedy results, given in doses of five and ten drops,

as indicated, to these little sufferers. It seemed to be borne well and efficaciously. Readers do not care much for the recital of cases; bare facts are meat from which all can subsist with profit. Glyco heroin (Smith) is far superior to codeine, as a sedative, in affections where a direct action upon the respiratory center is looked for. For, certainly, its action must be direct where it is noted that respiration is deepened and prolonged. No vomiting, no nausea, no headache, no depressing of powers of mind or body, no untoward symptoms, glyco-heroin is *par excellence* the remedy for conditions affecting the respiratory organs, whether in children or adults, in the weakly and in the strong.

### ORTHOFORM

#### AN EDITORIAL REVIEW.

A white, voluminous, odorless and tasteless powder, non hygroscopic, and but slightly soluble in water, freely so in alcohol and collodion.

Orthoform should not be used in conjunction with formaldehyd, silver nitrate or potassium permanganate solutions, or in powder with antipyrin or bismuth subnitrate; on the contrary, however, the bichlorid of mercury, turpentin, tincture of iodine, and solutions of copper sulphate are indifferent to the action of orthoform; combined with iodoform, thioiodoform, dermatol, zinc oxid, eucophen, aristol, calomel and salicylic acid, advantages are sometimes secured, dependent upon the character of the lesion and the effect which it is desired to produce. Solutions of carbolic acid, 3 per cent. to 5 per cent; lysol; lead acetate; the borates and aluminum salts can be prescribed with orthoform.

According to Deniges,<sup>1</sup> on adding to a mixture of 0.1 gm. of orthoform, 1 cc. of water and 4 to 5 drops of soda solution, 1 drop of sodium hypobromite solution, a red color appears. On further addition of the hypobromite solution, the compound, in addition to the color, forms a

characteristic blood-red precipitate. On heating the mixture to boiling and adding ammonia drop by drop to the solution, the precipitate formed with the hypobromite is dissolved as soon as an excess of ammonia is added, producing an orange coloration. On adding 0.01 gm. of orthoform to 1 cc. of a boiling solution made by mixing 5 gms. of mercuric oxid, 20 cc. of sulphuric acid and 100 cc. of water, a yellow, changing to an orange color, is produced. If 10 to 15 drops of soda solution and 1 to 2 gms. of orthoform be mixed with 50 cc. of water, boiled and shaken for a short while, a compound is produced of a pink or reddish color.

The anesthetic or analgesic effects of orthoform are best secured when it is brought into direct contact with the sensory nerve filaments; then a profound and prolonged effect is secured no matter how applied. The slow solubility in the secretions allows only enough to be used to produce this continuous anesthesia.

Orthoform has been successfully employed in burns of the second and third degree, varicose and other ulcers, hemorrhoids, carcinoma, tuberculous ulcerations of the throat, transplantations, dental caries, keratitis, conjunctivitis, corneal ulcers, and after operations of all kinds where there is loss of tissue. It is antiseptic, preventing fermentation and putrefaction, but its antiseptic power is limited. It limits the amount and favorably influences the character of the secretions. It is often advisable to combine with it some of the antiseptics already mentioned, which will assist granulation or change the character of the lesion, and depend upon orthoform for its pain quieting or anesthetic effect. Orthoform has been applied in various ways and for various purposes. As a diagnostic agent in determining gastric ulcer, as well as for the relief of the pains in gastritis; in an emulsion with yolk of egg, or by insufflation, for dysphagia accompanying tubercular or specific laryngitis; in the nose after operations; as an ointment, with lanolin, to ex-

ternal lesions, and in conjunctivitis, etc. ; in solution with alcohol or collodion after plastic operations ; as a suppository after operation for hemorrhoids, curetment of the uterus, urethritis, and as a bougie for the treatment of gonorrhea ; suspended in water or a bland oil, for painful cystitis or prostatitis. Finally in dentistry, applied to cavities after extraction.

Bouveyron and Siraud<sup>2</sup> have been administering orthoform in a total daily dose of two to three gms. (30 to 45 grs.), divided into four to six powders, with success against the essential headache of syphilis. Most frequently the smaller dose, namely, two gms. (30 grs.) in twenty-four hours, is sufficient to quiet all this rebellious pain. Usually a decrease takes place during the first night and after that the pain disappears entirely. In order to avoid recurrence it is necessary to continue the drug several days. The precise method of employing the drug necessitates distinction between continuous and intermittent headaches. For the intermittent headaches the best method is to take a powder containing 0.50 gm. ( $7\frac{1}{2}$  grs.) of the drug about one hour before the expected time for the pain to appear, and two similar powders during the latter part of the night. For the continuous pain, four such powders should be given at regular intervals ; for example, every six hours. Sometimes the ingestion of this drug provokes a sensation of heat or irritation in the stomach, which may be corrected by giving an equal quantity of sodium bicarbonate with each administration. On the other hand, orthoform, when given internally, does not quiet in any degree dysphagia of syphilitics or other pains in the thorax, periosteum or vital organs.

Dunbar Roy<sup>3</sup> details several cases of otitis media treated with orthoform suspended in albolene. The mixture was warmed, shaken so as to thoroughly mix it, and the auditory canal half filled and the mixture allowed to remain, with the effect of entirely relieving the pain. M. A. Reasoner<sup>4</sup> gives the history of a case of

cystitis with enlarged prostate treated with orthoform, injected into the bladder, suspended in water. One to four drams of a 1 per cent. solution of orthoform was used once a day after washing out the bladder with hot boric acid solution. Bock used orthoform as a dusting powder after operation in the nose, mixed with other substances, and secured perfect healing without the formation of pus and without pain ; while Daniel found that the use of orthoform allowed him to make endoscopic examinations of the urethra and cystoscopic examination of the bladder when the mucosa was highly sensitive, without pain or the unpleasant complications which frequently attend the use of cocain.

August Luxenburger,<sup>5</sup> in a series of culture experiments with orthoform, iodoform and lycopodium, found that bacillus pyocyaneus, staphylococcus citreus, and streptococci remained sterile on the former and flourished on the latter two. Not only was the growth of the bacteria arrested, but the bacillus pyocyaneus and the staphylococcus citreus developed scarcely any color and but little odor. He has used orthoform either pure or in combination with dermatol, zinc oxid, euophen, aristol, calomel, salicylic acid, etc., in bruised and cut hands and fingers, burns and scalds, ulcers,—tubercular, running, traumatic, decubitic, trophic, and varicose ; in chancroid, carcinoma, ingrowing toe nails, fistula, amputations, tracheotomy, etc.

Three cases of stone in the bladder were treated with daily injections of 1 gm. orthoform in sodium chlorid solution with excellent results. Tubercular cystitis was also benefitted, but two cases of gonorrheal cystitis did not react. In only five of three hundred and thirty cases did local disturbances,—vesicular or pustular eczema,—occur in the neighborhood of the wound.

G. Spiess<sup>6</sup> believes that the laryngeal spasms of whooping-cough are due to irritation of the peripheral endings of the sensory nerves of the larynx, and has



found that they can be obviated by anestheticization or rather hyperestheticization of the laryngeal mucous membrane by means of insufflations of orthoform.

G. Spiess<sup>7</sup> recommends the pure powder or equal parts of it and sodium sozoiodol, to alleviate and shorten the course of acute coryza; the powder is blown into the naso-pharynx several times a day.

B. Frankel, in *Berliner klin. Wochensch.*, April 15, 1901, speaks of the use of orthoform and cocain as a local anesthetic to be applied to the nose in reflex neuroses, such as asthma and hay fever.

In a discussion on the use of orthoform in tubercular laryngitis, Emil Mayer,<sup>8</sup> New York City, states:

"I would like to endorse the use of orthoform for this particular condition, and would call attention to the preparation with the white of an egg, that makes a very stable preparation and one that is valuable. I have found orthoform mixes very well with some of the liquid vaselin preparations, such as benzonol, and I have used that sometimes when the emulsion was not to be obtained. It may be said also that orthoform is not only of use for the painful deglutition that is associated with the tubercular trouble, but also in those conditions following operations. Nothing will give your patient so much comfort after a tonsilotomy as this emulsion."

Dr. S. Solis-Cohen,<sup>9</sup> Philadelphia, states that for temporary relief of the pain attending inflammatory and ulcerative affections of the throat, orthoform applied in various ways is probably the best agent now at our command. For two years, he states, that he has been using lozenges containing from 0.008 to 0.06 gm. ( $\frac{1}{8}$  to 1 gr.) each of orthoform in cases of acute and subacute sore throat (tonsilitis, pharyngitis), whether of rheumatic or other origin, and in cases in which pain in swallowing has been caused by ulceration or infiltrative conditions involving the epiglottis and arytenoid eminences. In some cases adrenal extract has been used at the same

time. He states that this treatment has afforded such relief as to enable the patient to eat with comparative ease. The improvement has been especially noticeable in cases of tubercular laryngitis, in which he prescribed the orthoform lozenges ten minutes before meals; it permitted the patient to take the food with a minimum of discomfort. The advantage of the lozenge over insufflation or other methods of application is that the patient can himself make use of the analgesic agent.

J. Wright<sup>10</sup> has used it locally in laryngeal tuberculosis.

W. Freudenthal<sup>11</sup> uses an emulsion of menthol and orthoform on the mucous membrane of the ulcerated larynx and states that the anesthetic properties of the latter cannot be doubted. This emulsion produces a large area of local anesthesia and is curative.

P. S. Donnellan<sup>12</sup> says in speaking of laryngeal tuberculosis: "I have found orthoform applied by means of a powder-blower to ulcers with exposed nerve endings very useful in relieving dysphagia.

John Sendziak<sup>13</sup> states that in tuberculosis of the larynx orthoform not only acts as an antiseptic and analgesic, but that it seems to act favorably upon the condition itself. He applies it in the form of an emulsion:

|                         |         |
|-------------------------|---------|
| Orthoform.....          | 12.0    |
| Menthol.....            | 1.0-5.0 |
| Ol. Amygd. dulc.....    | 30.0    |
| Vitelli ovarum.....     | 25.0    |
| Aq. Dest. q. s. ad..... | 100.0   |

Fiat emuls. Sig.: Apply locally.

Edward W. Wright<sup>14</sup> reports on the treatment of hay fever and states that orthoform allays the hypersensitiveness, hyperesthesia, and the paroxysmal sneezing. Its effects are in duration many times longer than from cocain, and without toxic effects.

In a recent dissertation M. Vignat<sup>15</sup> describes Czerny-Trunczek's method of dealing with epithelial cancer. The treatment consists in the local application of arsenous acid, to which orthoform may be added, as the acid causes severe and

lasting pain. To begin with, the following solution is recommended :

|                      |         |
|----------------------|---------|
| Orthoform .....      | 1.0 gm. |
| Arsenous Acid.....   | 0.1 "   |
| Alcohol.....         | 7.5 "   |
| Distilled Water..... | 7.5 "   |

The proportion of arsenic may be gradually increased until the following strength is reached :

|                      |        |
|----------------------|--------|
| Orthoform.....       | 1. gm. |
| Arsenous Acid.....   | 1. "   |
| Alcohol.....         | 40. "  |
| Distilled Water..... | 40. "  |

Solutions of still higher strength may be gradually substituted for the above. After the crust has fallen off, the wound is irrigated with a solution of orthoform, 1 gr. to 1 dr. of glycerin, to render the applications of the acid painless.

Dr. C. W. Allen<sup>16</sup> uses a paste composed of equal parts of white arsenic and orthoform in the treatment of epithelioma of the lip. He has employed this combination for a couple of years and states that the application gives very little pain.

Albertin<sup>17</sup> reports that, after the application of orthoform to the pedicle in a case of abdominal hysterectomy, there was seen a rise of temperature (39.5°), vomiting and an eruption of wine-red patches beginning on the face extending over the upper part of the body in the form of isolated and confluent, slightly raised red plaques. The fever and general symptoms disappeared after the removal of all the orthoform and the application of talcum and bismuth.

Wunderlich considers eczema, erythema and gangrene following its use as due to the anesthesia of the nerves, which deprives them of their regulatory influence upon the blood vessels.

Brocq<sup>18</sup> states that both solutions and ointments sometimes cause severe pruritis and hyperemia; in one case the powder applied to a fissure of the vulva caused marked tumefaction and swelling in various parts of the body.

G. E. Decker<sup>19</sup> reports two cases of vesicular dermatitis of the hand, follow-

ing the application of the powder to an injured finger.

Miodowski<sup>20</sup> reports sloughing after the application of a five per cent. ointment to an old varicose ulcer of the leg.

Dubrenill<sup>21</sup> groups the severe symptoms occurring after the local application to raw surfaces into (1) erythema, which may or may not be complicated with vesiculation or pustulation; (2) gangrene, a complication which is little known. The erythema may be localized or so diffused as to become generalized; if vesicles arise, they may be closely aggregated, burst and produce considerable secretion. Subjectively severe burning is complained of by the patient. Asam<sup>22</sup> reported a case of dermatitis in which large bulla containing coagulated serum was observed. He records nine cases in gangrene of varying degree occurring after the application to wounds and ulcers.

Dr. G. Colburn Clement, Haverhill, Mass., reports in the *Therap. Progress*, May, 1901:

"Some time ago I saw the query, how long orthoform could be used upon abraded surfaces. Two years ago I began dusting orthoform over a large, deep and very painful ulcer upon the leg of a woman today passing her 91st birthday. It has been used continuously *ad libitum*. From the first it gave relief to pain, removed all fetid odor, and in a short time stimulated new granulations, so that 6 months ago the ulcer was healed. Occasionally, now, a superficial abrasion of small dimension appears, but its progress is stayed by the application of orthoform. These are the results, with no untoward symptoms at any time, and to my mind settles the danger of toxemia from orthoform."

Regarding the disagreeable after-effects from the use of orthoform, which have been reported, it seems that there is occasionally intolerance. The trouble, however, is usually a too free use of the remedy in the majority of the cases, the physician leaving the application to the patient, and he, seeking only relief from pain, uses the remedy too freely.

There have been five cases of eczema said to be due to orthoform in 330 cases treated (Luxenburger)<sup>23</sup>; gangrene not so frequent. Even malnutrition of the tissues due to infection or hyperemia are reported as predisposing causes to necrosis of the tissues, so how much should be charged to the effects of orthoform, and how much to natural effects following the pathological condition, is hard to determine. Whenever eczematous conditions accompany the use of orthoform it should be discontinued for several days, and, if pain is severe, tried again. If the same condition follows its use a second time, it should be abandoned.

## LITERATURE.

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- <sup>21</sup> *La Presse Medicale*, No. 40, 1901, page 233.
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## WHOPING-COUGH.—

|                               |            |
|-------------------------------|------------|
| R Phenacetin .....            | 3 drms.    |
| Tincture of belladonna ....   | 2 drms.    |
| Whisky .....                  | 1 oz.      |
| Fl. ext. of chestnut leaves.. | 6 fl. ozs. |

Teaspoonful every three hours until the face is flushed; then every three, four, or six hours, as needed to control the cough in a child six years old.—*Merck's Archives*.—*Med. Herald*.

**ETHYL CHLORIDE AS A GENERAL ANESTHETIC.\***

By SECORD H. LARGE, M.D., Cleveland, Ohio.

Ethyl chloride was first used as a general anesthetic about the year 1850 by Snow,<sup>1</sup> Heyfelder, and Sir B. W. Richardson. From what we can learn by searching the literature of that time it seems to have had a very short life. Forty-five years later Carlton, Director of the Dental Institute in Gothenburg, reported that he used it for extraction, and during the next two years the dental journals published and commented favorably on its use in several thousand cases. Within the last twelve months it has again been very extensively used in Europe by the medical and dental profession.

In looking over the literature on general anesthetics, we find great differences of opinion as to which is the safest and most reliable, but the following classification seems to be the most general: Nitrous oxide, ethyl chloride, ether, and chloroform. Nitrous oxide is considered to be the safest we have. H. C. Wood<sup>2</sup> has been unable to find more than four deaths recorded up to 1900. Hewitt<sup>3</sup> was able to trace 17 deaths due to its use, while Buchanan<sup>4</sup> reports one in 750,000. Ethyl chloride, according to Dr. S. Iglauer,<sup>5</sup> is placed next to nitrous oxide, as regards its usefulness as an anesthetic. Seitz,<sup>6</sup> of Constanza, a dental surgeon, collected over 16,000 cases with only one death from its use, and in this case the patient had a fatty heart and sclerosed coronary arteries. Ware<sup>7</sup> has had one death in 13,000 cases, while Luke<sup>8</sup> used it in 300 cases with no deaths. Lotheissen<sup>9</sup> reports one in 17,000. We personally have used it in over 100 cases, without any bad results. Ether, according to Cushing and Meyer, has a death-rate of one in 12,000. Statistics from translations of the German Sur-

\* Read before the Ophthalmological and Otolaryngological Section of the Academy of Medicine of Cleveland, January 29, 1904.—Reprint from the *Cleveland Medical Journal*.



gical Congress give one death in 5,090. Bouffleur quotes 500,000 cases with a mortality of one in 16,768. There are a number of deaths caused indirectly by its use, as in postoperative pneumonia. I have often thought that a number of these cases of pneumonia may have been caused by the transferring of the patient from a very warm operating-room through drafty halls to his own room. Permit me to suggest to the surgeon that the patient be conveyed on a canopy-top table to his room, where the temperature should be as near that of the operating-room as possible for at least the first few hours following the operation.

Chloroform statistics are more variable. Some report 16,000 cases, with only one death; others 1,500, with as many as five deaths. The majority of surgeons place the death-rate as one in 2,000.<sup>1,10,11,12</sup> On the continent chloroform was formerly used a great deal more than ether, but of late ether has taken the lead. Chloroform, up to twelve months ago, was used extensively in Europe and America for the removal of adenoid tissue and hypertrophied tonsils. Now it is proved to be extremely dangerous and contra-indicated in any lymphoid diathesis. Crile<sup>13</sup> has shown that in operations upon the larynx the use of cocain and atropin previous to its use lessens the danger.

From the above it is apparent that we have in ethyl chloride a safe and reliable general anesthetic for minor operations, and as a preliminary to the use of ether and chloroform in major operations. During its administration, the patient may be placed either in the horizontal or sitting position. A mouth prop, to which a piece of silk cord has been attached, is placed between the upper and lower teeth. About two c.c. of ethyl chloride is sprayed into the tube of the mask, and the patient is directed to take a few deep inspirations. The mask should fit snugly over the mouth and nose. The anesthetic should be gradually increased, spraying about one c.c. at a time and allowing a few sec-

onds to elapse after each dose. It is seldom necessary to use more than 10 c.c. for complete anesthesia, which is secured in from one to two minutes, according to age, sex, and the condition of the patient. A smaller amount of the anesthetic than is necessary for men is usually sufficient for women; alcoholics require more than non-alcoholics. Most of our cases did not receive more than five c.c., and the average length of anesthesia was from one and a half to three minutes. In only one of these cases did nausea follow, and that was a case of adenotomy. Whether the nausea was due to ethyl chloride or to swallowed blood, I am unable to say. In using ethyl chloride as a preliminary to ether or chloroform, smothering sensations and struggling are avoided, the time for complete anesthesia is shortened, and the amount of ether necessary for complete anesthesia is thus reduced. The following few cases in which it was used may be cited:

Case 1.—Dr. W., aged 30, was suffering from acute otitis media. Five c.c. of ethyl chloride were used for the anesthetic. A free incision was made in the tympanic membrane, and was carried deep into the external canal on account of sagging of the superior posterior wall. There was no headache, vomiting, or any unpleasant symptoms. The operation was done in my office in a reclining-chair.

Case 2.—Dr. L., aged 29, was suffering from adenoid tissue in the postnasal space. Five c.c. of ethyl chloride were used as an anesthetic, and the tissue was removed with a curette. Neither pain nor nausea was experienced, in fact, the patient said that his sleep was a very pleasant one. The operation was done in a dental chair.

Case 3.—Dr. J., aged 31, was given six c.c. of ethyl chloride for the removal of adenoid tissues. No vomiting or headache, or any unpleasant symptoms developed.

Case 4.—Judge W., aged 58, was given four c.c. of ethyl chloride. A free incision of the tympanic membrane and external

canal was made. No unpleasant symptoms occurred.

Case 5.—Baby L., aged 10 months, was given three c.c. of ethyl chloride. An incision of the drum membrane was made. In this case the baby sat on its mother's knee. There was no vomiting, nor did the child even cry on awaking.

Case 6.—Gertie B., aged 13, was given eight c.c. of ethyl chloride. The tonsils and adenoid tissues were removed. There was no vomiting, and no unpleasant symptoms resulted.

Case 7.—Herbert W., aged 15, was given four c.c. of ethyl chloride, preliminary to the use of ether for removal of adenoid growths and tonsils. After using the ethyl chloride, it took only a little over half an ounce of ether to get the patient thoroughly under the influence of the anesthetic. There was no struggling and no vomiting during or after the operation.

From the above cases you will see that we have used it on the young, middle-aged, and the old, with no evil effects. In cases in which the tonsils are submerged, and in cases in which adenoid growths are also present, I would not advise the use of ethyl chloride alone, as the time of anesthesia is not long enough to do a thorough operation.

For the nose, throat, and aural surgeon it is an ideal anesthetic. It is very satisfactory for puncturing the ear drum, for opening furuncles in the canal and abscess of the throat, or for the removal of adenoid tissue or tonsils. I have also used it in making examinations of the tympanic membrane, when the external canal was swollen and very painful. Permit me to sum up its advantages:

1. It is safe and reliable.
2. It is simple to administer.
3. It causes no cyanosis nor struggling.
4. It is pleasant to take; no smothering or unpleasant symptoms result.
5. Its after-effects are comparatively nil.
6. Its cheapness.
7. Its easy mode of transportation.

8. It can be administered with the patient sitting or reclining.

9. It can be given in your office.

10. It is adapted to cases in which it is not desirable to narcotize the patient thoroughly, as in operation for goitre, openings of abscesses, throat, etc.

11. It is valuable as a preliminary to ether or chloroform, thus saving time and anesthetic.

Before closing, I wish to thank Drs. Burke, McGay and Richardson for their able assistance in most of the cases anesthetized.

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#### EXODIN, A NEW CATHARTIC.\*

By DR. ALFONS STAUDER,  
Specialist for Diseases of the Stomach and Intestines,  
Nuremberg, Germany.

The author desires to call attention to a cathartic which has very important advantages over the many old and new purgative remedies hitherto known. It is exodin, diacetyl-rufigallic-acid-tetramethyl-ether, a greenish-yellow substance melting at 356° to 374° F. As is shown by Prof. Ebstein's report on this remedy, preliminary experimentation proved that rabbits bear 7½-grain doses very well, and that this amount in human beings exerts a mild purgative action.

As suggested by Ebstein, Stauder gave

\* Read at the Nuremberg Medical Society, April 21, 1904; abstracted from the *Therapie der Gegenwart*, June, 1904.

to adults 2 or 3 tablets of  $7\frac{1}{2}$  grains each, and to children 1 tablet. As it is tasteless and odorless, patients take the remedy without difficulty. The drug never causes any unpleasant symptoms whatever, no nausea, eructation, or gastric oppression; even patients suffering from ulcer of the stomach can take it at all times without the least ill effect.

Its tastelessness gives exodin an important advantage over castor oil and cascara sagrada. Its action is slow; and here his experience differs from that of Ebstein, for he found that it takes on an average 18 to 24 hours to manifest its effect. Action in 8 to 12 hours only occurred in mild cases of chronic constipation, or when repeated doses had been given. This slowness of action proves that the drug, in contradistinction to the rapidly-acting purgatives, has no injurious or irritant effect on the intestinal mucosa. Exodin does not occasion a sudden and temporary downward peristalsis of the intestinal coils; it has a slower and more protracted stimulant action. This explains the fact that gastric pains and colic are absent; that the evacuations with rare exceptions are soft and formed, and diarrhea is hardly ever seen; and that its action, which lasts several days and only gradually subsides, is not followed by constipation.

The author here appends a number of illustrative cases, which clearly evidence the splendid action of the remedy.

The most suitable cases for its exhibition are acute and chronic obstipation in otherwise healthy persons, the so-called atonic forms, and also the cases in which regular defecation must be stimulated in consequence of hemorrhoids, intestinal stenosis, twists in the colon, etc. Ebstein warmly recommends its use in pregnancy, even in the early months, where all other purgatives may be useless. It does not lose its efficacy when used repeatedly at intervals. Spastic obstipation, intestinal paralysis and coprostasis with large fecal accumulations are, of course, little suited for the

remedy. Here warm oil enemata are preferable; and after the scybalæ are softened, exodin can be warmly recommended to facilitate their evacuation in the place of the customary castor oil or calomel.

By examining the feces before and after employing exodin, Stauder satisfied himself that increased production of mucus or other symptoms of irritation of the intestinal mucosa never occur.

For these reasons he agrees fully with Ebstein's conclusions as to the value and efficacy of exodin. The certainty and constancy of its action, and the entire absence of unpleasant by-effects, assure for it a very prominent position among the purgatives. Of course, it goes without saying that a careful physical examination of the abdomen, to determine the nature and cause of the fecal retention, is a necessary preliminary to the institution of treatment in every case.

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REMOTE SEQUELÆ OF ADENOIDS.—C. D. Conkey writes (in the *Wisc. Med. Journal*, as quoted in *Medical Record*) that, broadly speaking, adenoids pass away before the child passes into young manhood or womanhood, but that from 5 to 15 per cent. retain their relative size well up into middle life. In regard to the sequelæ, the author recapitulates as follows: Nature often fails to bring relief to the organs of the body influenced by the presence of adenoids, by the shrinking process which take place about the age of puberty. The facial bones are arrested in their development, giving a characteristic appearance to the facial expression which is far from beautiful. The nasal cavities are narrowed by long years of non-use, and are frequently distorted by the development of a high palatal arch encroaching upon their caliber. The habit of mouth-breathing is acquired especially at night, which acts deleteriously upon the ears and upon the respiratory organs. Chronic postnasal catarrh is a frequent accompaniment of adenoids and persists after their disappearance.



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## Editorial.

### EDITORIAL NOTES.

PSYCHO-THERAPY, "the treatment of disease by mental influence, or by suggestion." An interesting study, or problem; and savoring of the occult to the laymind, when "hypnotism" is involved. Dr. WAINWRIGHT's paper on the subject in this issue is readable and—suggestive.

\* \* \*

Among the new anesthetics none, we believe, holds superior rank to orthoform; our editorial review in this issue summarizes the total of knowledge secured thus far by widest experience with orthoform, and we believe that this short descriptive article will serve the reader well for reference and as guide to a more extended use of orthoform.

\* \* \*

Exodin, the new cathartic, is tersely described in this issue in an abstract translation. The dose is  $7\frac{1}{2}$  grains for children, and two to three times as much for adults; it is tasteless and free from irritant effects; action occurs after 8 hours in mild cases, but on an average it is manifested only after 18 to 24 hours. It would appear that this drug lacks the primary elements of popularity: small dose and quick action. Yet, in these particulars improvement may come; in other respects the limited clinical experience thus far aduced would indicate that exodin pos-

sesses admirable qualities, which may secure for it the desired preference in practice.

\* \* \*

A writer in *American Medicine* thinks that many physicians, "alarmed by the statement that the hyoscine of commerce is really scopolamine," have ceased to use hyoscine. Such alarm is needless; a clear statement of fact should dispel misunderstanding. The hyoscine of commerce, which is the hyoscine of medicine—on which the therapeutic record of usefulness and value is based—has always been produced principally, if not altogether, from *Scopolia*, which is described botanically as the connecting link between *Atropa* and *Hyoscyamus*. Physicians have therefore been using scopolamine under the name of hyoscine, and securing valuable results. The same results will be attained by using the same alkaloid correctly named—on the authority of the German Pharmacopeia. Perhaps the 1900 U. S. P., to be issued in the Fall of 1904 probably, may add the weight of its indorsement.

\* \* \*

The scopolamine-hyoscine mix-up reminds us of a similar misunderstanding. For many years caffeine was preferably prescribed in the "citrate" form. All text-books of materia medica and therapeutics advised the preferred use of citrate of caffeine. And yet the citrate salt of caffeine did not exist, or was not prepared by chemists. It was a pleasant little fiction. Pure caffeine was furnished, and the profession innocently protested that the "citrate" gave better results than the "pure alkaloid." Although this mistake was corrected a dozen years ago, and is officially indicated in the Pharmacopeias, the citrate is still being prescribed and even mentioned in some text-books. And no doubt many are still puzzled between pure caffeine, the citrate of caffeine (which does not exist), and the new pharmacopeial product called citrated caffeine. But by whatever name prescribed, the therapeutic effect obtained is good. And that applies to scopolamine-hyoscine as well as to caffeine—pure, citrate or citrated.

## Current Literature.

**THE EXTRACTION OF FOREIGN BODIES FROM THE EAR.**—Use a soft rubber tube, about the length of a cigarette, and of the proper size to be introduced into the ear. The end, of the tube is dipped in paraffin, and pushed into the canal until it comes in contact with the foreign body, whereupon the operator, applying his mouth to the free end, aspirates forcibly, at the same time throwing back his head. Except in cases of angular bodies of irregular contour this method is usually attended by success, the body coming away with the tube.—*Medical Press*.

**NEURALGIA.**—C. H. Frazier, in the *American Journal of Medical Sciences* for December, states that trifacial neuralgia is probably in about 20% of the cases amenable to treatment other than operative. In some cases the disease has a tendency to run its course, usually reaching its height in five or six years, and then exhibiting a tendency to spontaneous cure. The medicinal treatment consists, first, in the removal of all predisposing causes, as malaria, anemia, exhaustion, or any peripheral irritation, such as a carious tooth, or antral disease. Secondly, the use of drugs, and the drug which is, *par excellence*, the most efficacious, especially so in the exhausted and anemic state, is strychnin. In cases of but one or two years' standing, strychnin properly administered will arrest or control the disease almost invariably. In order to obtain this result the drug must be administered in heroic doses, and the patient must be kept under the closest observation, and should be confined to bed. The remedy is administered hypodermically once daily, in gradually ascending doses, until at the expiration of two weeks the physiologic limit is reached. Thus beginning with one-thirtieth of a grain daily the dose may be increased to one-tenth or one eighth, or higher, and when the maximum dose is reached it should not be given oftener

than once on alternate days. After the pain has entirely disappeared the drug should be gradually withdrawn. As adjuvants to this treatment rest is regarded as of the utmost importance, and iodid of potassium and the tincture of chlorid of iron are regarded as more or less helpful. It is perfectly proper and justifiable to give medicinal measures a fair trial for a year at the utmost, and then if the attacks are very frequent, severe and uncontrollable, operative intervention is the only hope of relief.—*Cleveland Medical Journal*.

**ARSENIC.**—Howard S. Anders, in the *Medical News* for March 19, states that arsenic is an improver of nutrition, seeming to be a direct stimulant to nutrition by diminishing or checking tissue waste. Indirectly it improves nutrition by increasing the recuperative powers, and some people need arsenic to create a normal neuromuscular vigor, just as the syphilitic needs the iodides, and the chlorotic iron. He hesitates in regard to employing it in cases of tuberculosis, although he believes it to be of value in those cases in which fever is absent. He believes it almost a specific in St. Vitus' dance, and thinks it best administered by beginning with about three drops of Fowler's solution and increasing about two or three drops each successive day. He considers the drug of great importance in the treatment of chronic malaria, anemias, cachexias, and in intermittent malarial neuralgia.—*Cleveland Med. Jour.*

**HYOSCIN.**—*American Medicine*, November 28, (*Cleveland Med. Journal*) calls attention to the confusion existing concerning the solanaceous alkaloids, and states that alarmed by the statement that the hyoscin of commerce is really scopolamin, many physicians have ceased to use the drug. This neglect of the remedy means the loss of a valuable addition to our agents for the relief of suffering. Whether we adopt the German view and consider hyoscin and scopolamin as identical, or insist upon

their separate identities, the fact remains that hyoscin is a useful therapeutic agent. Kochman points out that although in cases of idiosyncrasies, hyoscin may cause alarming symptoms, not a single fatal result undoubtedly due to its use has ever been reported. In its physiologic action this alkaloid resembles atropin, but differs in not having any effect on the circulation, and in its peculiar sedative effect on the higher nerve centers. In various forms of insanity, especially of a maniacal type, it is perhaps the most valuable somnifacient we possess, not only on account of its power to allay the excitement, but also because it can be administered hypodermically. Its repeated use however frequently causes loss of appetite, attributable to difficulty in swallowing. It is also an extremely important remedy in paralysis agitans. In other nervous affections, save for its hypnotic power, Kochman does not believe it of much value. It has, however, been found useful in various forms of sexual excitement.

**COLLARGOLUM.**—In a brochure on "Colloidal Metals in Medicine" (L. Simion Nf., Berlin, 1904) Dr. J. L. Beyer, of Dresden, gives some interesting facts regarding the history, constitution and therapeutic action of colloidal silver or collargolum. The term colloidal designates the peculiar property of this water-soluble metal of not diffusing through animal membranes in distilled water.

Colloidal silver was first described by Carey Lea in the *American Journal of Sciences* in 1889, but his discovery was simply a laboratory curiosity without practical value, as his product was unstable and impure and had no field of application. Credé, of Dresden, working wholly independently (Lea's experiments were found by him only in later researches), came to the conviction that an efficient general body disinfection could be accomplished only by metallic but soluble silver, and not by means of silver salts; and he instructed the Heyden chemical

factory to make experiments in this direction. It is due to his work, as well as to that of the Heyden factory, that, by new and improved processes, a stable and pure colloidal silver (collargolum) was elaborated. And it was Credé who developed the method of internal silver treatment.

Collargolum consists of small, hard, brittle, bluish-black scale-like pieces. It is soluble in distilled water to the extent of 1:20, and remains stable even after months. Solutions may be prepared with ordinary drinking water. They may be boiled, but this is unnecessary, as collargolum is itself antiseptic. Lea's colloidal silver precipitates on being boiled.

Collargolum may be introduced into the organism by inunction, subcutaneously, by mouth, rectally, and intravenously. When given by inunction, absorption takes place in the upper layers of the corium. The dose of collargolum ointment (unguentum Credé) is 1 to 3 grams given one to four times daily. In chronic sepsis (furunculosis, puerperal fever) up to 30 inunctions may be given.

The effects of the subcutaneous injection are less rapid and certain, absorption being slow. *Per os*, 1:1000 to 1:200 collargolum solutions may be given in teaspoonful or tablespoonful doses 2 to 5 times daily on an empty stomach; this is especially indicated in dysentery, gastric catarrhs, etc. As an enema, 1:500 solutions are used, a cleansing clyster being given beforehand. This should be given twice daily for at least eight days. The method is praised by Prof. Schlesinger and Drs. Loeb and Kornfeld for its simplicity and safety, and because larger doses can be conveniently administered. The action of the silver when introduced by this route is especially energetic on the neighboring organs, such as the uterus and peritoneum. But the best method is the intravenous, which is perfectly safe and is especially indicated when the blood is the seat of infection, as in endocarditis.

As collargolum is rapidly eliminated, it must be constantly supplied to the organ-



ism when a permanent effect is desired. Its efficacy is fully apparent only when the whole clinical picture, not merely temperature and pulse, is considered. In a septic process the temperature does not always correspond to the severity of the infection; and equal importance must be conceded to the general symptoms. After the use of collargolum subjective improvement almost invariably precedes temperature or pulse improvement, occurring, when given intravenously, after four to six hours, and when inunction, after eight to twelve hours. Nervousness, headache and stupefaction abate, the patient is relieved and refreshed, and shows more interest in his surroundings. Appetite and sleep return. Often there is a mild diaphoresis and increased intestinal activity. Collargolum directly combats the septic affection and inhibits bacterial development.

But the antiseptic has, of course, its limitations. It may fail to save moribund patients or those in whom the powers of heart and the vasomotors are exhausted. Nor can it affect abscesses which are out of the reach of the body fluids. Its use should be begun as soon as there is danger of the spread of a local infection.

Beyer then resums the recent reports on collargolum by Schmidt, Wolfram, Dworetzki, Fehling, Harrison, Wenckebach, Klotz, Davydoff, Fischer, Schrage, Baracz, Arnold, Netter, and many others.

**TREATMENT OF DYSENTERY.**—A rapid, almost specific action is exerted upon pathological conditions of the intestines, such as are common in the tropics, by a decoction of cortex granati, simarubæ and lignum campeche with the addition of some silver nitrate. L. Köhler (*Therap. Monatsh*, September, 1903, *Medical News*) was able to cure almost hopeless cases with a tablespoonful of this mixture every twelve hours. The most delicate infants, and patients with weak digestive organs, experienced no nausea or untoward symptoms, and amelioration already occurred in twelve hours.

#### TREATMENT OF CONSTITUTIONAL SYPHILIS —

After discussing the theories held in regard to the action of mercury in syphilis and the relative merits of administering it continuously, intermittently, or only when the symptoms demand, A. M. Forbes (*Montreal Medical Journal*, August, 1903, — *Medical News*) lays down the maxim "Begin treatment with mercury as soon as the diagnosis is reasonably clear, and continue until not only the sore but the last vestige of induration has disappeared and some weeks have elapsed without apparent evidence of infection." With a history of illegitimate coitus followed in due course by a sore with rapid induration and then enlargement of the neighboring lymph-glands it is waste of time to wait for secondary manifestations, especially as sometimes the rash is wanting in persons who afterward present grave visceral and other lesions. The internal administration is the most pleasant and convenient but the least effective. With Jonathan Hutchinson, he prefers the mercury with chalk, rather than the bichloride or protiodide, as it permits fair doses of mercury to be given without inducing poisoning or diarrhea, and it is not irritant. He begins with one grain three times a day for an adult and rapidly increases the dose. Mercury by inunction is a more rapid method of treatment, and white precipitate ointment will be found clearer and less irritating than the usually employed "mercurial ointment." The patient rubs a piece the size of a bean to a walnut into the skin of abdomen, axilla, groin or popliteal space, changing the site of application on successive days. With children the salve is placed on the abdomen, covered with a binder, and allowed to work in by the child's movements. The most prompt action and the surest dosage are gained by the hypodermic method. The author keeps powders of corrosive sublimate, each one grain, which he dissolves in thirty minims of boiling water at the time of injection. He begins with five minims twice a week injected deeply

into the gluteus maximus, and increases the dose till the full thirty minims are given. The process is painful, but abscesses are rare. For tertiary syphilis mercury is useless, but the iodides in heroic doses, though not curative, have a wonderful power to cause the disappearance of the swellings or effusions. In treating syphilis a mouth-wash should always be employed, and if sores in the mouth do not disappear under mercury discontinue the mercury and try a general tonic for a time. In the case of geographical tongue, abstinence from tobacco may prove satisfactory.

**PUERPERAL SEPSIS AND ITS TREATMENT BY IODINE.**—W. R. Pryor (*Medical News*, January 23, 1904, —*Medical Record*) combats the obstetrical teaching that in most cases of puerperal sepsis the infection remains localized in the uterus. His own experience has forced him to conclude that in streptococcic septic puerperal fever, pelvic lymphangitis and phlebitis are early complications. In a given case he seeks to isolate the infected uterus between masses of iodoform gauze (details for the preparation of which are given) and by local and systemic iodine to destroy the cocci. He irrigates the uterus and packs it full of gauze, 10 per cent. strength. The posterior cul-de-sac is then opened by a broad incision, adhesions separated, the uterus lifted and the pelvis packed full of gauze, 5 per cent. From ten to fifteen gauze strips one yard long and eight inches wide are thus used. Cardiac stimulants are given as indicated and a self-retaining catheter is inserted. The urine is tested from time to time for iodine. From an experience of thirty-seven personal cases and sixteen in the practice of other operators, Pryor is convinced that this procedure offers much better results than does hysterectomy. Of the fifty-three cases enumerated, a previous curetting had been done in ten, and of these, three died. In forty-three cases not previously operated on, but one died.

**ON UROTROPIN.**—Dr. Henri Vindevogel, Laureate of the University of Brussels, 1897–1899, writes on this drug in the “Annals of the Royal Society of the Medical and Natural Sciences” at Brussels, Vol. XI., Part 2, 1902.

He aimed at determining whether and in what manner urotropin is decomposed in the organism into ammonium and formalin. The first tests which he made show that the decomposition of urotropin is slight and slow in neutral cold solution (68 to 70° F.), and is more active when the temperature is raised, especially on ebullition. It is also more active in acid solution, even if cold.

From these facts it would seem that urotropin, when taken by mouth during digestion, is when it reaches the stomach in conditions favorable for the liberation of formalin, being in an acid medium at a temperature of 99.5° F. This is easily avoided, however, by administering the drug upon an empty stomach. Urotropin is then absorbed and circulated in the fluids of the body, the blood, lymph, etc., all alkaline or at least neutral media. It does not seem probable that formalin in quantity sufficient to give a reaction will be set free in them. But when the urotropin has been eliminated by the kidneys and mixes with the urine in the bladder, it is in an acid medium at a temperature of about 99.5° F., *i. e.*, under conditions favorable for its decomposition and the liberation of formalin. It should therefore circulate in the blood as urotropin and should liberate formalin only after reaching the urinary bladder.

These considerations were borne out by his animal experiments. When urotropin is administered subcutaneously to guinea pigs, rabbits and dogs, urotropin, but no formaldehyde is found in the blood. Formalin is found in the urine of most of these cases, but no satisfactory explanation was found for the exceptions to this rule.

In healthy human beings the acidity of the urine is always markedly increased

by urotropin. Formaldehyde is found in most of their urines; but here again there is no explanation for the exceptions.

When the urine is rapidly voided after excretion it does not contain formalin. The demonstration of formalin is, however, easy, when the urine has remained three hours or more in the bladder. Hence urotropin in man is absorbed and circulates unchanged. It is eliminated by the kidneys unchanged, and the formalin is set free only in the bladder.

From this last conclusion it follows that urotropin may be used to set free formalin in the urine, and that it will be found useful whenever it is necessary to effect antisepsis.

Vindevogel then records ten cases, in all of which the acidity of the urine, when of normal reaction, was markedly increased, and neutral and alkaline urines were acidified. Especially in chronic cystitis accompanying prostatic affections urotropin gave good results; there was a manifest amelioration of the most troublesome symptoms, the dysuria, pollakiuria, etc. It always effects a rapid improvement followed by a complete cure in phosphaturia; success is more perfect, rapid and permanent than under the mineral acid treatment.

Vindevogel believes also that it should render good service in cases of uric acid calculi. By keeping the urine acid, and maintaining the phosphates in solution it should prevent the increase in size of the uric acid calculus from the precipitation on it of phosphates.

**DELIRIUM TREMENS.**—J. R. Clemens, in the *New York Med. Journal*, October 10, 1803 (*Cleveland Med. Journal*) summarizes the treatment of this condition as follows: An essential point is to get the patient to take food, and if old or weak, or if the attack is severe the author gives whiskey or brandy for two reasons, (1) as a bribe to get him to take food, and (2) as a stimulant to the heart which is weak, while a further advantage consists in combating

the insomnia so constantly present. Milk, raw or peptonized, is given every two hours alternating with strong beef juice. A dose of calomel is given at the outset to be followed by an occasional saline. A bitter tonic in which strychnin holds a place is given, and if the first heart sounds become weak strychnin is used hypodermically. The room should be dark, cool and quiet. If insomnia is present a choice from the following will promote sleep; hydrobromate of hyoscin ( $\frac{1}{200}$  to  $\frac{1}{100}$  grain) hypodermically; sulphonal or paraldehyd by the mouth; opium and chloral hydrate are positively dangerous by reason of the probable condition of the heart and kidneys. The patient must be constantly kept under observation, and as the delirium may be secondary to the state of the lungs, treatment consists in keeping a constant ear to the heart, and a finger to the pulse, exhibiting stimulants without restraint when necessary.

**MORPHINE IN NEPHRITIS.**—In the *Therapeutic Gazette* for March, Tyson treats of the use of morphine in nephritis. He has always advised caution in the use of morphine in Bright's disease, believing that he has seen uremia precipitated by it. He is not surprised to hear it claimed that the drug has been of signal service in the treatment of puerperal convulsions, as the truth is that morphine is dangerous mainly, or perhaps only, in chronic interstitial nephritis. The majority of cases of puerperal eclampsia are due to parenchymatous or epithelial nephritis, and in these morphine may be used with comparative safety and brilliant results. Since, however, interstitial nephritis is responsible for a few cases, some risks must be run if morphine is indiscriminately used. As a precise diagnosis is not often made, the safest course is to get along without it, or defer it until other measures fail. Experiment has confirmed the result of clinical teaching and thus explains them. The convulsions of parenchymatous nephritis may be treated with morphine with



comparative safety, because the renal epithelium is still capable of eliminating it. Since most of the cases of puerperal eclampsia occur in connection with parenchymatous nephritis, it is evident why results are often so brilliant. When it happens, however, and especially when the nephritis has preceded pregnancy, that the disease is interstitial nephritis, the use of morphine is attended with large risk. He believes, also, that in using hypodermoclysis in uremic convulsions, sweating should precede the hypodermoclysis. This will avert the danger of overloading the venous side of the circulation, which so dangerously dilates the right heart.—*Cleveland Med. Jour.*

IN A PAPER entitled "Surgical Clinics," Dr. Frederick Holme Wiggin, Visiting Surgeon, City Hospital, Visiting Gynecologist, St. Elizabeth Hospital, Consulting Surgeon, Metropolitan Throat Hospital, New York, details the technique of an appendicitis operation. After suturing the wound and disinfecting the skin, he applies the following solution: Celloidin, 1 part; absolute alcohol, 4 parts; ether, 4 parts. This thoroughly seals the wound, but permits of its complete inspection, as the celloidin is transparent. The dressing also acts as a splint and holds the edges of the wound in proper position. If properly applied, it prevents infection of the wound and tissues from displacement of the bandage or careless handling. This is a great advantage, especially when the surgeon is obliged after the operation to leave the patient during convalescence to the care of others.

The preparation was first called to his attention by Mr. E. Stanmore Bishop, of Manchester, England. It must not be applied too liberally, as it has strong contractile powers, and if too large a surface is covered it is likely to contract sufficiently to cause the edges of the wound to turn inward. The solution should be made fresh for each operation, as ether and absolute alcohol evaporate rapidly.

Care must be exercised to see that the skin is well dried and the wound is not oozing, or the solution will not adhere properly. A piece of gauze is placed over the dressing and held in place with adhesive strips lightly applied, so as to make no pressure. If after four or five days there are no signs of infection, this can be removed. When properly applied, the celloidin will adhere for eleven or twelve days; but if there is an infection it will be found loose and can be removed like an old scab.

Dr. Wiggin has used the dressing for five or six years, and has found it very satisfactory and a great aid in his surgical work. (Abstracted from the *International Journal of Surgery*, May, 1904, Vol. 17, No. 5, p. 153.)

APPETITE JUICE AND THE ETHICS OF EATING.—J. G. Adami reviews Pawlow's experiments on dogs, by which it has been proved that there are two tides of secretion of the gastric juice; the psychic tide, set up by the sight of food, by the taste of the same, and by hunger, the juice of this tide (the appetite juice) being relatively abundant, flowing for a considerate period, and having strong digestive powers. The chemical tide is set up at a latter period by the direct effect of the foodstuffs upon the gastric mucous membrane. The former is brought into activity by the higher centers; taking everything into consideration it is the more important. Food eaten without relish and without appetite, although in itself most nutritious, may lie for hours within the stomach undigested. So again food, eaten while the mind is diverted to other things, may stay for long unacted upon, or is liable to undergo decomposition, and, irritating the mucous membrane, may lower its condition. If, therefore, dyspepsia is to be warded off, the food should be taken under such conditions that everything is directed, on the one hand, to remove the thoughts from the cares of daily life, and on the other to make the repast appetizing, so that the palate may be tickled and the flow of appetite juice excited.—*The Montreal Medical Journal.*

## Therapeutic Notes.

### MAGNESIUM SULPHATE FOR CHILDREN.—

Dr. George F. Little, of Brooklyn, N. Y., in *Merck's Archives*, says that the very unpleasant taste may be fairly concealed by syrup of raspberry.

R Magnesiæ sulphat. .... 3 iv  
Syr. rubi idæi ..... q. s. ad 3 ij

M. Sig.: Tablespoonful. —*Med. Herald.*

INJECTIONS IN TUBERCULOSIS.—*Clinica moderna* for February 10, 1904, quoting *Medico pratico*, gives the following as efficacious and not very painful :

R Pure iodine ..... 7½ grs.  
Potassium iodide ..... 75 grs.  
Crystallized guaiacol. .... ½ oz.  
Pure glycerin ..... 1⅓ ozs.

M. For hypodermic use.

For incipient tuberculous arthritis the following is given :

R Creosote ..... 22½ grs.  
Iodoform ..... 1 drm.  
Alcohol ..... 75 min.  
Sterilized olive oil ..... ⅔ oz.

M. For injection into affected joint.

—*N. Y. Medical Journal.*

TAPEWORM.—*Revue française de médecine et de chirurgie*, for January 25th, gives the prescriptions furnished recently to *Presse médicale* by Dr. C. Quéry. The day before using these it is not necessary for the patient to fast, but the quantity of food taken should be moderate in amount :

R Pumpkin seeds ..... 10 drms.  
Fresh extract of pomegranate  
bark ..... ⅓ oz.

M. Make a paste and divide into 20 boluses. Take 5 every half hour, fasting.

The taste of these boluses may be masked with oil of mint or lemon, or the mixture may be dispensed in capsules. Half an hour after the last 5 boluses have been swallowed, this purgative should follow :

R Comp. tincture of jalap,  
Syrup of buckthorn ..... āā 6 drms

M. One dose.

The foregoing doses are for an adult ; they produce a painless passage of the entire worm, and cause no nausea. —*N. Y. Medical Journal.*

“BLACK EYE” LOTION AND PAINTS. — “Black eyes” or other temporary discolorations of the skin may be disguised by the application of pink grease paint, or collodion colored by means of a little carmine. As a lotion, the following have been recommended :

(1) Ammonium chloride ..... 1 oz.  
Alcohol ..... 1 fl. oz.  
Water ..... 10 fl. ozs.

Diluted acetic acid may be substituted for half of the water, and the alcohol may be replaced by tincture of arnica, with advantage.

(2) Potassium nitrate ..... 15 grs.  
Ammonium chloride ..... 30 grs.  
Aromatic vinegar ..... 4 drms.  
Water to make ..... 8 ozs.

—*Dietetic and Hygienic Gazette.*

DYSMENORRHEA OF YOUNG GIRLS.—*Journal des Praticiens* for Feb. 20, 1904, recommends digitalis if there is mitral stenosis. If not, the general health should be built up. The patient should remain in bed during the first few days, and an enema containing a small quantity of laudanum may be given. A suppository of belladonna in cacao butter is equally efficacious. If the flow is copious, the following pills may be administered :

R Ergotine ..... 1½ grs.  
Quinine sulphate ..... 3⅓ gr.  
Powdered digitalis leaves. .... 3/20 gr.  
Powdered coca, enough to make 1 pill.

M. Take 2 to 4 daily.

Ergot being somewhat powerful, hydrastis and viburnum prunifolium may be substituted for it, five minims of the tincture of each being administered every two hours. Small doses of hamamelis and cannabis indica may be useful.

Flien, of Berlin, recommends painting the nasal mucosa with solutions of morphine and cocaine ; he alleges a connection between menstruation and congestion of the pituitary membrane. There is no harm in trying this method, even if it acts only through suggestion :

R Cocaine hydrochloride ..... 4¾ grs.  
Morphine hydrochloride ..... 1½ grs.  
Distilled water ..... ⅓ oz.

M. Paint two or three times daily.

—*N. Y. Med. Journal.*

# The American Therapist.

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WITH PRACTICAL SUGGESTIONS RELATING TO THE CLINICAL APPLICATIONS OF DRUGS.

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## Original Articles.

### *TUBERCULIN PREPARATIONS.*

By J. W. WAINWRIGHT, M.D., New York.

In discussing the specific immunizing sera we must differentiate between antibacterial and antitoxic products. To prepare antibacterial sera we must make direct use of the germs themselves, but for the genesis of antitoxin—represented chiefly by antidiphtheritic and antitetanic sera—we do not deal with the bacteria proper but with the soluble products of the micro-organisms, or in other words, with the soluble toxins. The latter are incorporated into suitable organisms, where they effect immunity, not only toward the particular toxin involved, but also toward the germs which engender such toxin. One is therefore enabled to protect an organism from a given disease by treating it in advance with these bacterial products. We may deduce therefrom that, in all probability, an organism already infected may be cured by treatment with the products of the bacteria of the disease in question.

The tuberculin preparations, introduced into science and medical practice by Robert Koch, the discoverer of the tubercle bacillus, consist of bacterial products of the soil; and while on one hand they serve for therapeutic warfare against tuberculosis, they are applicable also to diagnostic purposes.

In order to prepare Koch's tuberculin preparations we may either free the nutrient culture medium from the bodies of the bacilli by filtration and washing, or

we may employ the same medium without attempting to separate the bacilli.

The original or old Tuberculin consists of the nutrient medium plus the bacilli, while the New Tuberculin (T. R.) is isolated from the latter.

#### TUBERCULIN AS A DIAGNOSTIC RESOURCE.

*Dosage and Method of Application.*—Robert Koch, in his address before the Second International Congress of Tuberculosis (London, 1901), gave accurate directions for the application of tuberculin, which we quote verbally.

"First the temperature of the patients must be observed for one or better two days, in order to be convinced that its range is below 37° C. Patients with temperatures above this point are not suited for the diagnostic application of tuberculin, and under no circumstances should they be subjected to this test. If the patient is found adapted to the test, he should receive an injection beneath the skin of the back of from 0.1 to 1 mgm. In weak individuals we should begin with the minimum dose, while with strong patients who have only insignificant tuberculous alterations we may begin with the maximum dose. If the first injection does not cause an elevation of temperature, the dose should then be doubled—not on the next day, however, but on the next day but one. If a slight rise of temperature ensues, even if no more than a quarter degree, the dose is not increased; but after the temperature has become normal, the same quantity is again given. It often then appears that the second reaction is quite characteristic and can be used as an infallible indication of the presence of tuberculosis. But if after the first low dose no reaction appears, the



quantity injected is increased to 5 mgm. and if necessary to 10 mgm. The last dose I am in the habit of repeating in order to be positive; and then, if no reaction follows, I feel justified in assuming that no recent or progressive tuberculous lesion, which requires specific treatment, is present.

#### TREATMENT WITH TUBERCULIN.

In consulting the literature on the subject of the treatment of tuberculosis with tuberculin, one is struck with the marked diversity of opinion regarding its value. Most writers, however, agree that tuberculin is of value in tuberculosis, provided it is administered in the early stages, and that it has demonstrated its positive reliability in the treatment of skin tuberculosis,—lupus. T. Maynard (*Brit. Med. Journal*, Dec. 22, 1900) speaks highly of tuberculin injections in the treatment of lupus vulgaris. He reports a case of lupus involving the nose, that had resisted all other forms of treatment. The initial dose was 0.001 gram, which was gradually increased to 0.09 gram. Recovery took place after four months of treatment. The injections were given in the forearm, and usually were followed by fever, redness and swelling of the nose. Heron (*Philadelphia Med. Journal*, Sept. 21, 1901) reports a case of lupus vulgaris cured by injections of new tuberculin. Tuberculin, according to Charles H. Burnett (*System of Diseases of the Ear, Nose and Throat*, 1893), has proven of excellent service in the treatment of leprous laryngitis. He has given it in doses as high as 11 centigrams, and has found but moderate reaction to follow its use, although the local action was quite marked, even from the first injection. Cicatrization of the leprous lesion quickly followed. He cites the results obtained in a leprous patient with extreme hoarseness, which disappeared entirely after three injections of tuberculin. Burnett believes that, besides treating lupus of the throat by local means, patients should be given the benefit of tuberculin, through which

a quicker, surer and more radical cure may be expected.

Osler recommends tuberculin in obscure cases of tuberculosis of the internal organs, for example, the mesenteric glands, the bronchial glands, and the peritoneum. Brunzlow (*Deutsche Med. Wochenschrift*, Sept. 26, 1901) reports a case of tubercular knee-joint following trauma in a boy of fourteen. He was successfully treated by subcutaneous injections of tuberculin. Ramsey (*Intercoll. Med. Journal*, July 20, 1901) reports a case of an obstinate tuberculous condition in a young man. At the right shoulder was a large abscess, in which the bone was involved. Over the right parietal bone was a diffuse swelling. The right knee was also swollen. Two years of treatment by the ordinary surgical means brought no relief. The patient then received daily injections of Koch's old tuberculin during a period covering a little over three months, and was ultimately cured.

The general consensus of opinion for the employment of tuberculin in the treatment of pulmonary tuberculosis seems to be that the greatest success depends upon its early administration in cases of tuberculosis pure and simple, and not in those cases of mixed infection. E. B. Cutler (*Boston Med. and Surg. Journal*, 1897, p. 571), Heron (*Medical Press and Circular*, Aug., 1901), and W. C. Wilkinson (*Brit. Med. Journal*, June 7, 1902) warn against the use of tuberculin in far advanced cases. In those patients suffering from a mixed infection, these writers believe tuberculin injections to be strongly contra-indicated. In treating fifty cases of pulmonary tuberculosis with tuberculin, Wilkinson had twelve deaths. Thirty-five of these cases were in the first and second stages of the disease, and of these three cases (mixed infections) died. Wilkinson has met with no untoward effects, not even a superficial abscess, in thousands of injections. Other writers too, for instance Turban, Krause, Thorner, Rembold, Heron and Bandelier,

are in favor of tuberculin in pure, not too far advanced, that is fever-free, cases of tuberculosis.

In the *Berliner klinische Wochenschrift*, May 5, 1902, Engel reviews the employment of Koch's tuberculin and tuberculin R in fourteen cases of bronchitis. In but seven of these were tubercle bacilli found in the sputum, though all responded to the tuberculin test. Three cases grew worse after three weeks' treatment, and it was found necessary to stop the injections. Six of the seven cases where no tubercle bacilli were found recovered. In the cases with tubercle bacilli in the sputum the treatment proved ineffective. P. Kaatzer (*Therap. Monatshefte*, 1896, part 8) has met with a different experience. He treated seventy patients within a period of five years, and submits the following statistics:—21 cured, 12 improved, 6 unimproved and 31 dead. Kaatzer regards the position to reject the tuberculin treatment an unjust one. Heron (*Med. Press and Circular*, Aug. 1901) claims that a return to useful life of 16 out of 34 cases of pulmonary tuberculosis is not an unsatisfactory result. Goetsch (*Deutsche Med. Wochenschrift*, 1901, No. 25) reports his results with the tuberculin treatment in 175 cases of pulmonary tuberculosis as 125 cured, 50 improved. No case was called tuberculosis, unless tubercle bacilli were found in the sputum, and no case was called cured unless the bacilli disappeared and the patient was able to tolerate, without reaction, a large dose, even up to 1 gram, of old tuberculin. Weicker's and Petruschky's experience with tuberculin gave results far surpassing those achieved by any other method of treating pulmonary tuberculosis. They believe that it is important to avoid excessive reaction, and to keep the doses of tuberculin below the fever-producing point. Cutler (*Boston Med. and Surgical Journal*, 1897, p. 571), Dauriac (*Le Progress Medical*, 1897, No. 49 and 50), McCall Anderson (*Brit. Congr. of Tuberculosis*, London, 1901), Heron

*Phila. Med. Journal*, Sept., 1901), T. L. Coley (*Therap. Gazette*, Sept., 1901), and Keown (*Maryland Med. Journal*, April, 1902) report good results with the tuberculin treatment. Keown and Dauriac claim that tuberculin has a decided influence in hemoptysis.

A very interesting and remarkable case of typhoid fever occurring in a tuberculous patient, who has decidedly improved under the influence of tuberculin, is reported by Erwin Fischer (*Phila. Med. Journal*, August 3, 1901). The patient, a male of 35 years of age, formerly healthy, but with a tubercular tendency inherited from his father, was taken ill during the summer of 1897. Sputum contained tubercle bacilli in large numbers. Koch's new tuberculin was administered up to doses of 20 mg. of the solid extract in combination with the internal administration of creasote in various forms. In the early part of 1898, there were evidences of pulmonary catarrh, and the expectoration, which contained numbers of tubercle bacilli and a small number of other micro-organisms, amounted to 60 cc. *per diem*. The patient's condition improved. In July he developed a very severe form of typhoid fever, complicated with several intestinal hemorrhages and a thrombosis of the left popliteal artery. Gruber's test, conducted by the Pittsburg Board of Health, was positive. During the patient's illness from typhoid fever he received no tuberculin. He was in bed until the latter part of September. Tuberculin injections were resumed in October. Upon examination, lungs still showed evidence of catarrh, and the sputum was found to be unchanged. After spending a few months in California, he returned to his home in Pittsburg, and commenced work. He lost 14 lbs., but these were soon regained. Tuberculin injections were increased from  $\frac{1}{1000}$  mg. to 20 mg. of the solid extract. The subjective symptoms were markedly improved, the expectoration ceased, and the patient gained in weight.

Fischer intends giving the patient several more courses of tuberculin treatment, after which he will apply the tuberculin test. After discussing the different phases of this case, the author believes that the administration of tuberculin previous to the attack of typhoid fever immunized other portions of the patient's body at this time particularly susceptible to the invasion of the tubercle bacillus. The confinement of the disease to a limited area, and the patient's consequent recovery, may be ascribed to the influence of the tuberculin.

Heron (*Phila. Med. Journal*, Sept. 21, 1901) describes three unfortunate experiences with tuberculin. One, a girl of 17, died 27 hours after the injection. She received  $\frac{1}{3}$  the minimum dose, which is 1 mg. of old tuberculin. The temperature, taken every four hours, never rose over 98°, and fell on the last day to 96.4°. The absence of reaction proved the non-presence of tuberculosis. The girl's sputum contained no tubercle bacilli, but auscultation of her lungs showed crepitus and dullness on both sides. Two similar cases followed injections from the same bottle, but analysis proved nothing wrong. Postmortem not having been permitted, the cause of death is left in doubt. Despite these unfortunate cases, Heron speaks favorably of tuberculin.

Pottenger (*Therapeutic Gazette*, Jan. 15, 1902) reviews the subject of the value of tuberculin in tuberculosis, and draws the following conclusions:—(1) Culture products do have a specific action upon tuberculous foci. (2) That this has not been recognized is due to the early unfortunate experience with tuberculin. (3) The field of usefulness for culture products is where recent tubercles are found, and this specially in incipient cases. (4) If used in advanced cases, culture products will help remove area of recent extension, but must not be expected to remove dead, decaying, or newly formed tissue. (5) When culture products are used, they should be re-inforced by every

means at command. Every phase of the patient's health should be cared for, and the proper hygienic and dietary measures prescribed. (6) When the case is managed properly, and culture products used, the proportion of cure is greater than when culture products are not used. (7) Culture products produce an immunity which protects patients from relapse; hence make a permanent cure more often than hygienic and climatic treatment alone, which fact of itself should be enough to warrant its use in suitable cases.

### QUINIC ACID AND ITS PREPARATIONS.

AN EDITORIAL REVIEW.

Sidonal (quinate of piperazin) is a chemical salt obtained from the action of quinic acid on piperazin, and occurs in the form of a white powder without odor or taste. It is very soluble in hot or cold water, alcohol, ether, or chloroform.

It is used in a variety of disturbances dependent upon the presence of uric acid, such, for instance, as lithemia, gout, arthritis deformans, chronic rheumatism, occipital headache, hemicrania, catarrh, asthma, and the so-called uric acid diathesis. It is best administered in solution, wafers, capsules, or in powder-form washed down with copious draughts of water. Dose, from 5 to 8 gms. (75 to 120 grs.) daily, given in three, four, or more doses.

The popular esteem in which a vegetable and especially a fruit diet has been held for many years by sufferers from gout and other disorders arising from uric acid diathesis, has recently been completely justified by scientific research.

Kionka and others demonstrated that the nature of the food partaken of directly influences the formation of uric acid in, and excretion from, the animal system. The classical researches of Weiss in the Bunge laboratories furnished the earliest exact knowledge regarding the ingredients



of food-stuffs which favor or retard the production of uric acid. Commencing with the study of the influence on uric acid excretion of the addition of definite quantities of fruit to a normal diet, Weiss found that one to two pounds of cherries, strawberries, or grapes daily reduced the amount of uric acid excreted from 20 to 40 per cent. Attempts to identify this peculiar property with any particular constituent of the fruit at first failed. Sugar, tannic acid, potassium tartrate, etc., did not produce any appreciable effect. At length quinic acid, which is a frequent although minor constituent of fruits and vegetables, was tried and found to possess a very intensive effect in reducing the excretion of uric acid.

The therapeutical application of the discovery was not long delayed. A suitable form of administration was found in the compound which quinic acid produces with piperazin.

The results attending the administration of sidonal prove, as pointed out by Dr. J. Meyer, of Carlsbad, in the discussion on Blumenthal's communication on Sidonal to the meeting of the Society for Internal Medicine, in March, 1901, that quinic acid retards the production, and not merely the excretion of uric acid. Further evidence of this fact is afforded by the appearance of hippuric acid in place of uric acid in the urine of patients on fruit diet, or to whom sidonal has been administered. Five typical cases of gout and five of renal concretions were successfully treated. The attacks were shortened while pain and swelling abated more rapidly.

Both hippuric acid and its salts are known to be easily soluble as contrasted with uric acid and the salts of uric acid. The manner in which the metabolic changes are affected by quinic acid, so as to produce hippuric acid instead of uric acid, has yet to be revealed; but from a chemical point of view it is extremely suggestive that, whilst uric acid may be built up from glycocoll and urea, hippuric

acid is formed by the combination of glycocoll with quinic acid. Thus it can readily be understood that quinic acid, as a constituent of sidonal, removes a constituent necessary to the formation of uric acid, and thus reduces the production of the acid in the body.

Prof. Ewald, continuing the discussion, said: "I have prescribed sidonal in cases where there has been much excretion of uric acid and gravel, either cases of renal trouble or leucemia, and in all these cases—four in number—have observed the urine to clear in a most marked fashion. After discontinuing its administration, the urine in some cases became turbid again from uric acid deposits, in others remained clear for some time. In one case, the patient reported great relief from pain, which is corroborative of Dr. Meyer's experience. Moreover, the preparation caused no objectionable symptoms to appear when taken in doses of 75 grs. *pro die*."

Dr. Goldscheider said: "I have only had the opportunity hitherto of giving sidonal in two cases of gout, in both of which, however, it answered well. The first patient was 58 years of age, and had suffered from gout since 1872. The gouty attacks developed in typical manner in the great toe joints, and subsequently other joints were involved. An attack had been experienced nearly every year, and various treatments had been tried, which could not be tolerated. The patient tried Teplitz without success, and also the salicylic acid treatment, etc. In my infirmary he was given in February last sidonal in doses of 75 grs. *pro die*, the administration being continued four days. Even after the first dose the patient noted an improvement in his appetite, although the pain was only slightly abated. After the third day the pains had almost entirely disappeared, the swellings in the knee were considerably reduced, and after nine days the troubles had completely disappeared and the tophi considerably diminished.

"The other case was a patient 83 years of age, who had had gout for forty years, and for several years had suffered considerably therefrom, especially in the great toe joints. He presented himself during an acute attack and was given sidonal in doses of 75 grs. *pro die*. After three days' administration, improvement was manifest; on the third day, a new swelling appeared in the second phalangeal joint of the ring finger of the right hand, but this abated on the fourth day. On the fifth day, the swellings had completely disappeared and pain was only experienced on attempting to walk. Whether the remedy renders greater service than others is naturally difficult to say from such limited clinical experience. In articular rheumatism I have tried sidonal without success."

Von Leyden,<sup>1</sup> in discussing the paper by Blumenthal,<sup>2</sup> stated that this preparation certainly caused a marked reduction in uric acid formation, and that it is of great service in gout and uric acid diathesis. The remedy is well borne, without producing diarrhea. Jacques Meyer, in ten cases of gout, found that without exception great benefit was derived from this drug in diminishing the duration of the attack and in causing the pain and swelling to disappear more rapidly.

J. Lindsay Porteous<sup>3</sup> reports on the use of sidonal in one case of gout of long standing. Twenty-five grs. were given three times a day without a change of diet. At first dull pains in muscles of legs and sides were complained of, but this was followed by disappearance after the third day. He accounts for the pain during the first three days in believing it to be the result of the gradual separating of the uric acid from the tissues where it had been inactive. The urine was increased in quantity, as was the urea (49 grs.) and the uric acid (1.29 grs.) during the use of an ounce of the remedy.

Weiss,<sup>4</sup> at a meeting of the Berlin Society for Internal Medicine stated that: "The testing of sidonal had shown that

the preparation really had an effect in checking the formation of uric acid. If from 5 to 8 gms. of sidonal were given daily, the excretion of uric acid was diminished from 40 to 50 per cent., the quantity of hippuric acid being increased. As there was no increase in the after-periods, it was evident that the action was not simply the retention of the uric acid in the system. Hippuric acid, being very soluble in water, has no injurious influence. From these investigations it appears likely that sidonal will prove a useful remedy in gout."

Saalfeld<sup>5</sup> found that in 15 grain doses, five or six times daily, this drug gave excellent results in gout; in acute articular rheumatism, however, it was inefficient.

Altogether some twenty-five cases were reported of the action of sidonal in gout, with benefit to all. Tophi disappeared, as did pain and swelling. The attacks were shortened and less frequent.

Sidonal New, which is a later and cheaper product than the original, and therefore likely to supplant the older preparation, is quinic acid anhydride, and is given in the same conditions and in the same doses as the quinate of piperazin.

#### QUINIC TROPIN.

De la Camp<sup>6</sup> has made some very careful experiments with quinic acid, particularly with quinic tropin, a combination of quinic acid and urotropin. The first of the series of experiments was made upon a young girl suffering from chlorosis. It was found that the administration of quinic tropin produced moderate increase in the amount of uric acid excreted (the greatest quantity being upon the day on which the drug was first administered), and a very great increase in the amount of hippuric acid. The second and third cases suffered from arthritic gout, and the effect upon the amount of uric acid was very irregular. In the first case the daily amount excreted diminished in spite of the administration or withdrawal of quinic tropin, and in the second it varied considerably. In the third case the amount

of hippuric acid was greatly increased; in the second case technical difficulties interfered with its estimation. A brief examination of a case of myelogenic leucemia was also made, and it was found that in this the amount of hippuric acid excreted was enormously increased as a result of the administration of quinic tropin. The drug appears to be harmless even in doses as large as 20 to 30 gms. (300 to 450 grs.) per day. Probably the best dose is about 5 or 6 gms. (75 to 90 grs.) daily. It appears to be clinically the best remedy against gout. In conclusion de la Camp states that in his opinion quinic acid does not influence the excretion of uric acid in any particular way. It invariably causes an excessive production of hippuric acid, but as the relation of neither of these substances to gout is understood, it is perfectly justifiable to depend upon clinical experience. It deserves a further trial in cases of uric acid concretion.

#### UROSIN.

A mixture of quinic acid and lithium citrate, sold in tablet form, each tablet containing 0.5 gm. of quinic acid, 0.15 gm. of lithium citrate, and 0.3 gm. of sugar. It is recommended for the uric acid diathesis, six to ten tablets being administered daily.

Sternfeld,<sup>7</sup> of Munich, strongly recommends quinic acid as a remedy for gout, owing to its strong solvent action on uric acid in the blood. It has none of the disagreeable effects of quinine, and, when in the body, is converted into benzoic acid, which, united with nitrogenous waste products, is excreted in the urine as hippuric (amido-benzoic) acid. The combination of quinic acid with an alkali, as, for example, lithium, has been found effective both in dissolving uric acid and in promoting diuresis and the excretion of uric acid. The author gives it in the form of tablets of half a gram each ( $7\frac{1}{2}$  grs.), and administers from six to ten tablets a day. As the result of treating a considerable number of cases he concludes that

quinic acid is a specific for gout, as are the salicylates for acute articular rheumatism, and quinine for malaria. The only drawback at present as regards lithium quinate is its high price. The results, however, are so gratifying that in private praxis at least this treatment should be preferred to that by other drugs.

Kolbe<sup>8</sup> says that this preparation is very useful in gout.

#### UROL.

Urol, urea quinate,  $C_4H_{12}O_6 \cdot 2CO(NH_2)_2$ , is a compound of two molecules of urea and one molecule of quinic acid. According to C. von Noorden<sup>9</sup> the preparation has an acid reaction, and a constant melting point of  $107^\circ C$ . It is very easily soluble in water and diluted alcohol, and at a medium temperature it may be recrystallized from these solvents. On prolonged heating of its aqueous or hydroalcoholic solution up to  $70^\circ$  to  $100^\circ C$ . decomposition takes place, ammonia and carbonic acid being formed; these are also formed on heating in a fusion-tube above the melting point. With strong nitric acid, urea nitrate is precipitated from a concentrated aqueous solution of urol. The preparation is hygroscopic. The author reports having experienced favorable results with urol in treatment of gout gravel (both urinary and renal).

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PAIN IN MUMPS.—Raguzzi, according to *Médecine moderne* for January 6, 1904, (*N. Y. Med. Journal*) advises:

R Guaiacol ..... 1.0 gm.  
Vaseline,  
Lanolin.....ââ 10.0 gms.

M. For an ointment, use morning and evening.



## IRON THERAPY IN THE TREATMENT OF SMALLPOX.

By MARTIN C. WOODRUFF, M. D., St. Louis, Mo.

As far back as 1893 my attention was first called to "Gude" Pepto-Mangan. But it was not until the Spring of 1895, when I was appointed Superintendent of Quarantine and Smallpox Hospital at St. Louis, that I had opportunity to test thoroughly its merits.

Upon my entrance to the aforesaid institution I found 118 patients in various stages of variola. The sanitary conditions were not of the best, consequently septicemia, pyemia, boils and abscesses were of frequent occurrence; in fact, one ward of some 25 odd beds was used exclusively for this class of patients.

In my endeavor to combat this condition of affairs, my mind of necessity reverted to the iron preparations. After using iron in its numerous forms, I found it entirely too astringent and acid to exhibit for any length of time.

It was at this time that my previous experience with Pepto-Mangan "Gude" led me to make some experiments to ascertain for my own benefit the actual value of iron and manganese in these conditions.

After several months continuous examination (microscopical) I found that in all cases of variola the hemoglobin was diminished to less than 42%, and the red blood corpuscles were diminished to such extent that the actual average count in some 85 cases was less than 2,273,000. After four weeks' treatment (the general average time patients were confined to the institution) the hemoglobin had increased 50% and the red blood cells 46%. Believing that these cases were exactly suitable and amenable to treatment by "Gude" Pepto-Mangan, provided it would do what was claimed for it, I decided to exhibit it exclusively and prove the results by actual demonstration in the increase of the hemoglobin percentage and the increase of the number of red blood corpuscles.

The similarity of these cases of necessity make the history of one the history of all. For this reason I will not burden my readers with a repetition of a number of cases, but will confine myself to a few exceptional cases.

Case 1.—Age 17; diagnosis Variola Confluenta, followed by a general pyemia. Period of treatment, 24 weeks. First count 2,323,000, hemoglobin 42%. Second examination, after 8 weeks, red blood cells 3,722,000, hemoglobin 58%. Third examination, 16 weeks, red blood cells, 4,122,000, hemoglobin 67%. Fourth examination, red blood cells 4,899,000, hemoglobin 79%. Result, cured.

Case 2.—Age 25; diagnosis, Variola Semi-confluenta followed by puerperal septicaemia. Period of treatment, 15 weeks. First count, 3,123,000 red cells, hemoglobin 62%. Second examination, red cells 5,325,000, hemoglobin 89%. Result, cured.

Case 3.—Age 16; diagnosis, Variola Semi-hemorrhagic, uncomplicated. First examination, red cells 2,824,000, hemoglobin 42%. Period of treatment, 6 weeks. Second examination, red cells 4,376,000, hemoglobin 83%. Result, cured.

Case 3.—Age 10; Variola Discreta with Scarlatina, both infections occurring simultaneously, a most malignant and rare disease. In this double infection the anemia and depression was profound. First examination, red cells, 2,036,000, hemoglobin 28%. Period of treatment, 8 weeks. Second examination, 5,102,000 red cells, hemoglobin 88%. Result, cured.

At the beginning of my first term as Superintendent of Quarantine the mortality was 21%. In twelve months it has been reduced to 9%, and in the last year of my incumbency there were but sixteen deaths in 1,749 cases, showing the very low mortality of less than 1%. It may not be generally known, but it is a fact, that death occurs in variola during the time that absorption begins to take place, which is about the twelfth day of the eruption.

Now, if by the administration of drugs the percentage of hemoglobin and the number of red blood cells can be brought anywhere near the normal before this period of absorption takes place, we, of necessity, increase the power of resistance tenfold.

I would not like to be understood as saying that the mere use of pepto-mangan caused the remarkable decrease in the mortality at our institution, though I am quite sure that it played a major part in producing the result.

During my incumbency as Superintendent at Quarantine Hospital, I had under my sole care a case of leprosy, which was finally pronounced cured after no recurrence had taken place for a year after a total abeyance of all symptoms. From first to last in the treatment of this case pepto-mangan was used as a tonic and reconstructive. The blood count was never made in this case at any time.

Eight years of my time was devoted exclusively to this institution, and I treated personally some 4,000 cases, and that my faith in pepto-mangan, as the very best treatment in variola, had not diminished one iota is exemplified by the purchase of quantities just prior to severing my connection with the smallpox hospital.

Before bringing this article to a close, I wish to make it plain that constipation throughout the entire course of variola is a contending factor. For this reason preparations of iron which would further aggravate this condition are contra-indicated. At no time did I find this to be the case where pepto-mangan was administered.

Another and very great feature is the stability of the preparation. In my twelve years experience with this preparation I have never found a single bottle with the least particle of precipitate. Last, but not least by any means, it being a perfectly neutral solution, it can be taken indefinitely without the least fear of injury to the patient's teeth.

## ON ICTERUS FROM INSECT BITES AND GALL-BLADDER DISEASES.\*

By Dr. W. BAUERMEISTER,  
Specialist for Diseases of Metabolism and of the Gastro-  
Intestinal Tract, Brunswick, Germany.

There not infrequently occurs, as a consequence of the bites of various insects, a more or less extensive urticaria, with general dyspeptic symptoms of a gastro-intestinal catarrh. Sometimes yellowness of the scleræ and of the skin demonstrates a duodenal catarrh. Reciprocal action of the skin and the intestinal tract is a common phenomenon; but the latter is usually the first factor, as in herpes, furunculosis, etc. In the cases under consideration the trouble emanates from the skin. This is analogous to the occurrence of gastro-duodenal ulcerations after burns, for which the explanation is possibly some physical change in the bile (pleiochromia). Violent irritation of the skin may occasion gastro-intestinal ulcerations, and lesser disturbances may cause a hyperemic swelling of the intestinal mucosa and a so called catarrhal icterus.

These effects of insect-bites the author himself experienced. While visiting a university town in 1901 he was so bitten by bedbugs that he had a severe urticaria lasting two weeks. The attack left him with dyspepsia, and so depressed that he had to go to the mountains for recuperation. A violent acute gastro-enteritis compelled him to return home. While convalescing therefrom, he was suddenly seized with a gall-bladder colic, which recurred at frequent intervals and was accompanied by tension in the region of the liver and marked swelling of that organ. There was no icterus or marked excess of bile pigment in the urine. The cholecystitis lasted for months, despite the regular use of Carlsbad water.

He then proceeded to a systematic disinfection of the biliary system, as the

\* Abstracted from *Therapeutische Monatshefte*, May, 1904.

cholecystitis was dependent upon an infectious catarrh. For this purpose salicylic acid is our most effective remedy; it is in part excreted by the gall-bladder walls, the seat of the catarrhal process, and there develops its antiseptic action. An abundant flow of bile is the best natural antiseptic for the biliary passages, and to effect this we have no agents more powerful than salicylic acid and sodium oleate. The author had pills made up, containing  $1\frac{1}{2}$  grains of each, and later added menthol and phenolphthalein as analeptics and to mildly stimulate intestinal activity.

These pills, named probilin, are difficult to prepare, but they are easy to take. In the morning, before breakfast, and in the evening, before retiring, he took 3 to 4 pills, slowly drinking thereafter about a pint of hot water. After two 20-day courses of this treatment, with a fortnight's interval between, he gradually mastered the gall-bladder infection. He ascribes his recovery entirely to the disinfectant and cholagogue effect of this treatment, and is strengthened in his conviction by the fact that he has succeeded during the past sixteen months in practically curing between 60 and 70 cases of cholelithiasis, with and without the passage of gallstones; only two cases did he have to have operated.

On the basis of these observations he states that the systematic use of salicylic acid with acid oleate of sodium will help when all other methods, such as Carlsbad (with or without rest), eunatrol, turpentine, olive oil, etc., do no good, and the sufferer is face to face with the knife. He details a number of his cases.

The treatment is equally efficacious in some cases of bile stasis without concretion formation, *i. e.*, as sometimes observed in cirrhosis of the liver. It appears in the form of a chronic cholangitis, with possibly a slight icterus and irregular, intermittent fever, and slight chills, general malnutrition, etc.

The exact reasons for the increased passage of concretions under the probilin

treatment is not quite clear. Two halves of a gallstone, equal in size and weight, were immersed in plain water and a probilin solution. The first showed no change for several days, while the second was noticeably smaller and covered with a sticky, slimy coating, which the microscope showed to be composed of saponifying cholesterol crystals. The cholesterol rhomboids were softened and poly-poid at their edges, showing that they were undergoing solution. The crystals were finally replaced by a mass of softened matter. While this may not occur to the same degree in the gall-bladder, it must do so to some extent, since both salicylic acids and soaps are excreted into the viscus. Laboratory reactions also show that not all concretions are equally subject to this solvent action. Bilirubin limestones, pea-sized specimens of which are found not infrequently in the common duct, are recalcitrant to it. And since the salicylic-oleic acid medication acts on these also, its effects cannot be attributed to chemical solution alone.

When the concretion is not simply entangled in the duodenal papillæ, so that it is washed down by the fluid from the stomach, the effect must be due to the increased *vis a tergo* from the cholagogue action of the remedy, together with the diminished mucosal swelling from the effect of the salicylic acid on the catarrhal process. In point of fact, the softness and friability of the calculi found in the gall-bladder and ducts, when operating on patients who had taken probilin, were very noticeable.

In a postscript the author expresses his gratification at the fact that Dr. Kuhn, Chief Physician in the Elizabeth Hospital at Cassel, a well-known authority in hepatic diseases, recommends in the *Berliner Klinik* of June, 1903, salicylic acid and oleate of sodium as the two most reliable drugs. In the Congress of Naturalists, at Cassel, Kuhn re-iterated his belief in their efficacy, and advised the addition thereto of menthol, which is virtually the composition of probilin.



**PERTUSSIS.**

By MARCUS P. HATFIELD, A.M., M.D., Chicago,  
Professor of Diseases of Children, Northwestern  
University Medical School.

*Synonyms.*—Whooping-cough, or hooping cough, Tussis quinta, Tussis convulsiva. Probably the *bex theroides* of the Greek physicians, Coqueluche (Fr.) Blauhusten (Gr.) Pertosse (It.) tos ferina (Sp.)

*Definition.*—A self-limited, specific, contagious bronchial and pharyngeal catarrh characterized by paroxysmal cough, terminating in an inspiratory "hoop" and the expectoration of a tough, glairy mucus, with or without vomiting at the same time.

*History.*—According to Comby, the French name for pertussis (coqueluchon) was originally applied to the harassing cough of la grippe, from which the disease was not differentiated until 1578. Thomas Willis (1682) was the first English writer to give a good description of the disease and to insist upon its contagiousness, which honor he perhaps ought to share with Sydenham.

*Etiology.*—Whooping-cough is met with in all climates and in every season, but seems to flourish best in summer and fall, according to the French statistics, while in this country spring and winter seem to be the favorite seasons. The disease is very prone to follow epidemics of measles. As a matter of fact, pertussis is epidemic in all of our large cities, and, except with infants, not as fatal as in certain of the noted epidemics of previous centuries, notably those of Copenhagen in 1767 and of all Sweden two years later.

*Age, Etc.*—No age is exempt from pertussis. White reports a case in a woman past 80, and Rotch believes that it can be contracted *in utero*. As a rule, one attack protects from a second, but such attacks are certainly possible, although even rarer than in measles or typhoid. It is especially a disease of infancy, frequent among infants, rare with adults and more

so with the old. Sex probably has no influence upon the disease. Contagiousness is great, a chance meeting, a few moments conversation, or a seat next to the sick child is generally sufficient to convey the disease, which may also be carried upon linen or clothing soiled with the expectoration of one suffering from whooping-cough.

*Pathology.*—Aside from its bacteriological, there are no characteristic lesions of pertussis. Its pathological findings are those of its complications, which are many and various. Among these may be mentioned congestion of the lungs, heart, kidney and meninges of the brain. Broncho-pneumonia, atelectasis and emphysema are by no means rare, and heart strain occurs more frequently than is often suspected. Hemorrhages into the various organs may take place from the violence of coughing. Bronchial adenitis always exists.

It is generally conceded that a micro-organism is the exciting cause of pertussis, but its natural history has not yet been definitely settled, although since 1867 bacteriologists have at short intervals been discovering the alleged peccant microbe. Poulet ('67), Letzerich ('70), Tschammer ('76), Burges ('85), and Afanassiew (87) have all laid claims to such discovery, the latter naming his microbe the *bacillus tussis convulsiva* on the strength of the fact that the injection of his microbe into the trachea of dogs produced a whoopy cough, bronchitis and broncho-pneumonia. When we were just ready to admit the conclusions of Afanassiew, Ritter and Galtier ('92) disturb our peace by declaring that the cause of pertussis is not a bacillus at all, but a diplococcus, which conclusion seems to be later reversed by those of Cohn and Neuman in 1893, and Griffiths believes that a special ptomain is the cause of all the trouble.

The latest utterance on the subject is that of A. Cavasse, who has studied the bacteriology of 330 cases and obtained

\* Sixth Paper in the Series on "Contagious Diseases of Childhood," in *Medical Standard*.

negative results from the blood, urine, tracheal and bronchial ganglia and cerebrospinal fluid. Staphylococci and streptococci were found in the liver and spleen and the latter in the medulla. Pneumococci and pneumobacilli were found in the pulmonary fluids. In the sputa, in every case, was found the "polar bacteria" of Czaplewski, which, however, failed to produce the symptoms of pertussis when inoculated into the lower animals. "La bacteriologie na pas encore det son dernier mot."

*Incubation.*—The period of incubation, or that elapsing between infection and manifest symptoms, is fixed by most writers at 7 to 8 days. Gerhardt says it is often not longer than 2 days.

*Symptoms and Course.*—The earlier division of pertussis into three stages, viz: stadium incrementi, stadium nervosum, stadium decrementi, is still a good one. The first stage, generally known as the catarrhal period, follows the course of an ordinary cold for about two weeks. Except for the fact that it is not amenable to ordinary treatment it can not be distinguished from a cold until the cough becomes characteristic and is attended with a slight evening rise of temperature. Up to this time a positive diagnosis is impossible, but the typical cough is conclusive and is well described in the Latin of Willis as "tussis convulsiva, strangulus cum inspiratione, sonora, eterata, saepe vomitus." \* \* \*

These attacks are due to spasm of the glottis and last until there is sufficient carbondioxide accumulated to relax the muscles of the glottis and allow the child to expectorate or vomit the mucus which has been the exciting cause of the paroxysm. The number of these paroxysms varies from two or three to fifty or more in a day and when prolonged leave the child exhausted and prone to sleep. Sudden changes of temperature, dusty air, anger, laughing, sneezing or haste in eating will precipitate such an attack, which can also usually be induced for diagnostic

purposes by deep pressure with a finger at the angle of the jaw. A closer examination of the whooping-cough paroxysm will show that it begins with a series of short, dry, expiratory coughs, quickly following one another and succeeded by prolonged whistling inspiration, due to a narrowing of the chink of the glottis. The child, in its efforts to obtain more air, seeks a fixed support either by bending forward and placing its hands upon its knees, or the same result is obtained by clutching firmly some stable object or by holding the chin between the hands, placing the elbows on a table or window seat to enable the respiratory muscles to work to their greatest possibilities. Until the spasm passes there is increasing lividity of the face and hands (Blauhusten) and stagnation of circulation, thus forcing increased pressure on the right heart. Ecchymosis of the eyeballs, hemorrhage from the nose and even from the ears, incontinence of urine or feces, and hernia may occur from the straining produced by the coughing. This period of paroxysmal cough lasts from 4 to 6 weeks and in favorable cases gradually diminishes in intensity instead of coming to a sharply defined, critical termination. Hence in any given case it is difficult to say when convalescence begins or when it is safe to give an entirely favorable prognosis. So much as this is certainly true, we ought, by the end of the sixth week, in an uncomplicated case, to find the paroxysms diminishing in number and intensity and the general condition of the child improving, both as regards color, appetite and better sleep. It should be remembered that pertussis is extremely prone to relapses, possibly due to accompanying bronchial adenitis. At all events these are to be looked for in the second and third stages and guarded against as much as possible, especially the much-dreaded complication of broncho-pneumonia.

*Complications.*—The frequent occurrence of albuminuria during the course of pertussis has not escaped the attention of

those who have had much to do with hospital cases of this disease. Its appearance closely coincides with the severity of the paroxysms and *pari passu* disappears with convalescence, hence we may legitimately infer that its existence depends upon a mechanical congestion of the kidneys due to the violence of the cough and, as might be expected, the amount of the albumen in the urine varies from day to day, or may be absent for a day and re-appear with a fresh exacerbation of the disease.

Paralyses are among the unlooked for complications, but Leroux has collected 38 such cases, chiefly in children under five years of age. Like albuminuria, these are met only within the acute stage and are often the result of some complicating infectious disease like influenza, pneumonia, or scarlatina. The paralysis generally follows convulsions and coma, but may develop slowly as a hemiplegia or monoplegia, due to a cerebral hemorrhage.

Buccal ulcers are among the minor accidents of pertussis and are produced by a chafing of the tongue against the lower teeth and ulceration of the frenum in consequence. This simple accident, as it is in most cases, may assume a diphtheritic character, extend, and give rise to hemorrhage of a grave character.

Excessive vomiting may seriously delay recovery and even lead to fatal results.

Hemorrhage from the eyes (bloody tears) and ears may occur, and epistaxis is very frequent.

Broncho-pneumonia is the most serious and the most frequent of the complications of pertussis, since the disease is always attended with bronchitis, usually of a mild type. But this bronchial irritation is always ready to pass into broncho-pneumonia with slight exciting cause. The differentiation between capillary bronchitis, lobular broncho-pneumonia, and pseudo-lobar broncho-pneumonia, all of which may complicate the disease, is hardly possible to make during life and of

little practical importance if made, as the treatment of all is essentially the same. Broncho-pneumonia may always be expected when the temperature rises, the paroxysms diminish, and dyspnea appears, even if auscultation does not give confirmatory proof. This complication may run a rapid and satisfactory course, except in infants under two years, or it may persist indefinitely, become chronic, and finally result in emphysema. More or less compensatory emphysema always accompanies the broncho-pneumonia in these cases and as a rule disappears at the same time as the other pulmonary lesions, but it may persist. Pleurisy is comparatively rare, and the same is true of pericarditis, but mechanical dilatation of the right side of the heart is quite frequent and may be permanent. Convulsions are frequent with young children under two years, with older children aphasia hemiplegia and sudden blindness are possible. Neuritis has followed pertussis. Anorexia, malnutrition, multiple abscesses, and septic infection may delay convalescence.

Differentiation is very difficult before the whooping appears, but the obstinacy of the pulmonary cough may justly awaken suspicion, but it should be remembered that chronic pharyngitis, enlarged tonsils, and bronchial adenitis may produce a spasmodic cough closely simulating pertussis.

*Prognosis.*—The younger the child, the worse the prognosis. With city infants pertussis is one of the most fatal diseases. Continued lassitude, peevishness, and anemia are always unfavorable symptoms. Convulsions are to be looked for in rachitic children, who occasionally die during a paroxysm, but not as often from convulsions as might be expected. Caseous degeneration of the bronchial glands is a possible sequela and should always be suspected when the paroxysms persist after the eighth week, or the child is of a tuberculous family or has suffered from a previous attack of the measles. Broncho-pneumonia is the most to be dreaded of



all complications for, as Comby puts it, nine out of ten of the deaths in infants suffering from pertussis are due to broncho-pneumonia. An intercurrent infectious disease diminishes the frequency of the paroxysms, but increases the danger of the child.

Mortality in very young children is frightful. Rogers' statistics show that  $\frac{11}{12}$  of his patients under two years succumbed to the disease. Holt says fully two-thirds of the deaths from whooping-cough occur during the first years of life. Between 8,000 and 10,000 children die annually in the United States from whooping-cough, which stands either at the head or next to the head of the list of mortality in the vital statistics of all our large cities. After the fourth year death either from pertussis or its complications is rare (Holt).

*Treatment* may appropriately be divided into hygienic and medicinal, the first of which is clearly the more important, if we remember that whooping-cough is essentially a siege of eight to twelve weeks against the vitality of the child. No method has yet been discovered whereby the microbic hosts may be safely dislodged, but much can be done to preserve the strength of the child during their prolonged attack. Pure air is an essential part in the treatment of whooping-cough. When the season is such as will permit, the child should be kept in the open air the larger part of the day. When the weather is inclement, two rooms should be devoted to the care of the child in order that one may be aired and warmed, while the child is kept in the other and as often as feasible carried from one to the other. Siebert, of New York, advocates the treatment of the child during the entire course of the disease in a room with windows kept wide open, and claims rapid improvement by this method, whatever the season of the year. So far as we know this has never been tried on a large scale, but the variations in Chicago temperature are so rapid that we should hesitate to make the experiment, unless it was other-

wise impossible to procure sufficient oxygen to counteract the pertussis toxins.

Sufficient food and systematic feeding stand second in our list of resources. Unless this is done, the child wastes, as it usually loses part of each meal by its repeated vomitings. This loss should be immediately made up and taken as soon as possible after vomiting. Eggs, beef juice, broth, cocoa, as well as milk should be used, and rectal alimentation resorted to if necessary.

*Medication.*—As yet no specific for pertussis has been discovered. Perhaps some later investigator will discover an anti-toxin efficacious to check the disease, but for the present palliative remedies are our main reliance. Of these a host, from belladonna to formaldehyde, have been loudly proclaimed, and all, so far, found to have limited value and use. For instance, antipyrine has undoubted value in checking the number of the paroxysms, but the drug has too depressing effects for continued use with a heart already sorely taxed by the paroxysms of coughing. Bromoform has similar value, but has more than once produced cyanosis and other toxic symptoms closely resembling chloroform poisoning. The pungent taste of bromoform makes it difficult of administration to children, and it is prone to separate from emulsions, so that in the last dose from the bottle a poisonous dose may unintentionally be given; but with all these drawbacks it is a valuable remedy and may be conveniently given as follows:

R Bromoform..... gtt. 12  
 Sp. vin. rectif., q. s. to hold in solution.  
 Emuls. amygd. dulc..... fl. oz. 3  
 M. Sig.: Teaspoonful for dose to child of five years.

Belladonna, once highly esteemed, is of value pushed to the limits of physiological endurance. Other remedies may be found of equal or greater value and much safer. The German method of using the powdered root in  $\frac{1}{10}$  to  $\frac{1}{8}$  of a grain gives positive results if given until it produces dilatation of the pupils and dryness of the

throat. Hyoscyamus, conium, and opium have been used with good results, but are dangerous drugs for continuous use with young children. Chloral hydrate, especially when combined with the bromides, is the best of the sedatives when necessary to induce sleep. Codeine and syrup of lactucarium will relieve the cough when frequent and harassing.

*Sprays and Vapors.*—The use of an antiseptic spray, such as 2 per cent. solution of resorcin or carbolic acid, materially shortens the paroxysms when used with a hand bulb atomizer at the onset of an attack. Cresolene, when vaporized over an appropriate lamp, is an excellent home substitute for the gas house treatment so popular in many of our large cities, but do not be tempted, as the writer was once, into trying the inhalation of ordinary illuminating gas in such cases. This was tried on quite a large scale in an orphan asylum and accomplished nothing except adding an annoying crop of boils to the other troubles of these children. Formalin is the latest of local remedies and may be used as 1 per cent. spray (Hinman), or 5 per cent. solution for topical application (Olliphant). Theoretically, the remedy ought to be of value, as it is a most efficient antiseptic. Dr. Olliphant, of New Orleans, claims that "it is as much of a specific for pertussis as mercury is for syphilis, and that by the use of the local application of formalin the course of the disease may be shortened from six weeks to six days." Another writer in the *St. Louis Medical Review* claims to have cured with this remedy seventy-five out of a hundred cases in less than ten days. But it should be remembered that formalin is irritating and that like hopeful claims were made in former years for laryngeal insufflation of quinine. Morris advises the local use of cocaine to the ear drums.

*Prophylaxis.*—Simple justice to others demands the child afflicted with whooping-cough should be kept from school and isolated for a period of not less than

ten weeks from the initial cough characteristic. If convalescence is retarded, quarantine should last even longer than this. On purely theoretical grounds it can be predicted a pertussis vaccine will sooner or latter be discovered, but as yet the discovery has not been made and the Jenner of pertussis is unknown, perhaps unborn. There has been much discussion as to the duration of contagiousness in pertussis. It is conceded that the disease is most contagious during the whooping-stage and generally believed that the premonitory catarrhal stage is hardly less so, hence the great difficulty of efficient quarantine in pertussis. Comby fixes the limit at two months.

If Olliphant's claims are well grounded, formaldehyde ought to be the best of all disinfectants for rooms and clothing used by pertussis patients. The formaldehyde lamp is a very convenient method of using the same and never discolors clothing or tarnishes metal as do the sulphurous acid fumes.

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THE TREATMENT OF FALSE WHOOPING-COUGH.—M. Capitan says that any nasopharyngo-laryngeal irritation may, in persons with an excitable nervous system, give rise to a cough identical with that of pertussis. Pharyngo-laryngeal grippe and tracheobronchial adenopathy are especially liable to induce this cough. In the former case, in addition to the usual treatment for grippe, give the following powder three times a day: powdered terpene, gr. 0.25; benzoate of soda, 0.25; bromhydrate of quinine, 0.20; antipyrin, 0.25. In addition the throat may be gargled frequently with a ten-per-cent. solution of sodium chlorate. The same treatment will be of service in tracheobronchial adenopathy, but it will be best to give the patient one or two teaspoonfuls a day, in a little beer, of the following: Distilled water, gr. 50.00; iodide of potassium, 2.00; iodine, 0.60.—*La Médecine Moderne*, September 30, 1903.—*Med. Record*.

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## Editorial.

### EDITORIAL NOTES.

TUBERCULIN forms the subject of a comprehensive critical review in this issue. The opinion prevails that tuberculin proved a failure as a therapeutic agent, and its employment is considerably limited because of this prejudice. A careful perusal of Dr. WAINWRIGHT's argument, with due consideration of the array of authorities cited, will re-enforce the reader's confidence in tuberculin—or, if a doubter, may encourage him to revise his views and utilize the product if occasion offers.

\* \* \*

IN QUINIC ACID and its compounds we undoubtedly have useful agents for treatment of indicated uric acid diathesis. The literature as yet is not voluminous, but such as we quote in this issue is good authority, favorable, and warrants consideration and use of these products.

\* \* \*

WE REPRINT in this issue another of the excellent monographs by Dr. HATFIELD, on Pertussis this time, and commend it to the reader as a complete exposition of the subject, interesting and instructive.

\* \* \*

THIS NUMBER of the AMERICAN THERAPIST completes the twelfth year of continuous and uninterrupted publication. This is the 144th monthly appearance of the journal. Many excellent articles have

we published, much hard work have we devoted to the monthly compilations, and great satisfaction have we derived from such support and commendation as our readers have vouchsafed. We will enter upon the XIIIth volume with renewed energy and undiminished hope of further success and usefulness.

APOMORPHINE HYDROCHLORATE AS A SEDATIVE AND HYPNOTIC IN ACUTE ALCOHOLISM.—Dr. Paul E. Becket, of New Orleans, concludes that (1) strychnine counteracts the depression of the heart and respiration which follows the use of apomorphine in frequent doses. (2) It acts as well in delirium tremens as in other conditions of alcoholism, and is indicated in these cases. (3) It is better to begin with a small dose (about  $\frac{1}{10}$  gr.) and increase it, if necessary. —*New Orleans Medical and Surgical Journal*.—*Med. Record*.

GUAIACOL CARBONATE IN THE TREATMENT OF MEASLES.—This remedy is extolled by D. M. Paton, who finds the remedy a specific in bronchial catarrh with fever. The latter is reduced promptly. The remedy has no effect on the measles itself. Bismuth added to the remedy will relieve any tendency to vomit; the same holds true of Dover's powder with reference to diarrhea. The treatment is begun when the diagnosis is made, and continued in full doses till the temperature has fallen to normal, a reduced quantity being given for two days longer to make sure of the result. The dose is calculated at one drachm *per diem* in powders of ten grains every three hours for adults, and children in proportion. The powder is readily taken by children, and all the more so if an equal amount of powdered sugar is added. No unfavorable symptoms have ever been seen during its administration which could in the slightest degree be attributed to the treatment; in no case has it failed to abort the bronchial catarrh, and there have been no deaths.—*Med. Record*, from *The Lancet*, Nov. 21, 1903.



## Current Literature.

**NUTRITIVE LEMONADE.**—The following recipe for making a white-of-egg lemonade: Take two lemons the yellow rinds of which are used for flavoring; the inner white rinds are thrown away. Pour over the slices and yellow rinds of the lemon a pint of hot water. Stir until cooled to the temperature of ordinary tea, and then strain. The whites of two eggs are then slowly added, the liquid meanwhile being briskly stirred. The mixture is whipped for several minutes and then strained. Sugar to taste. Serve cold.—*Intern. Clinic.*—*Med. Herald.*

**PUERPERAL SEPTIC INFECTION.**—In Caruso's alcoholic irrigation method, two rubber tubes are introduced into the uterus with loose gauze packing. Every four hours eight ounces of alcohol are injected through one tube and allowed to escape through the other—40 to 80 per cent. alcohol is employed. Results not superior to those of semi-expectant treatment. Fochier injects early in the attack 1 c.c. of sterilized essence of turpentine into the cellular tissue of the deltoid region or the flank. The resulting abscesses are opened and drained. Cheron and others report subsidence of the febrile symptoms. Webster packs the uterus with a pint of sterile water containing four ounces of glycerin and 30 min. of formalin.—Charles Jewett, in *Brooklyn Medical Journal.*—*Med. Journal.*

**ERGOT IN ALCOHOLISM, MORPHINISM, AND THE GENERAL CLASS OF DRUG HABIT CASES.**—Alfred T. Livingston (in *Medical News*, March 5th, 1904—*Medical Record*) describes his method of treating these cases. First, he wholly and immediately discontinues the use of the narcotic, and so arranges that the patient is absolutely prohibited any access to the drug or to any other that could be regarded as a substitute. The application of Ergot is then at once begun. At the same time a

mercurial purgative is given, followed in a few hours by a sufficient saline to assure prompt purgation. The ordinary meals are discontinued and abundant fluid and easily digested nourishment is given every three hours. No nutrition prepared with alcohol is used. The bowels are kept open once a day—better two or three times. The frequency of application of the ergot will depend upon the degree of addiction, and upon the general condition of the subject when the drug was discontinued. In general, the range would be from two to three doses a day to one every two hours in the extreme cases. A dose is one-half drachm of extract of ergot. The writer has in no case after the first forty-eight hours had a request from a patient for the accustomed drug or a substitute. The writer is radically opposed to the "tapering off" plan, but he suggests a procedure for this treatment which may be followed out in the extreme cases of morphine or opium addiction. With two of the ergot hypodermics daily, a fractional part of the drug is given. This dose is daily reduced till about the eighth day, when the morphine is discontinued.

**PURE OLIVE OIL AND ITS USE IN THE TREATMENT OF CHRONIC DYSENTERY AND ALLIED CONDITIONS.**—Henry H. Rutherford (in *Amer. Med.*, March, 1904—*Med. Record*) describes the process of obtaining the pure oil. Olives just short of full ripeness are selected for their soundness and healthfulness, and moderately rapid and complete expression made of them. The oily fluid thus obtained is exposed to an even, dry air until all moisture is evaporated. From the treatment by olive oil of gallstone disease was suggested to the writer a trial of olive oil in cases of chronic dysentery, sprue, and chronic enterocolitis of tropical origin. The internal administration of olive oil largely increases the flow of watery bile. The normal liquid bile in the intestine favors the absorption of fats; it stimulates intestinal peristalsis, it acts as an intestinal antiseptic. After the ad-

ministration of olive oil in cases of chronic dysentery, there has been positive evidence of increased quantities of bile in the feces. The number of bowel movements has been decreased, with marked improvement in their character. There has been a gradual cessation of signs of fermentation and putrefaction along the gastro-intestinal tract and consequent subsidence of pain and tenderness; also general systemic improvement—gain in appetite, repair of digestive facilities, symptoms of improved nervous system, and rapid gain in weight and strength have been noted. There has been an apparent positive cure after an average time of two months and upward, with few recurrences up to date. The patient is given 30 c.c. of oil three times a day for the first three days, and the quantity is gradually increased. At first the oil is best taken with about equal quantities of hot milk, with which it practically forms an emulsion.

**SUMMER DIARRHEA.**—A. A. Candry, in the *New York and Philadelphia Med. Journal* for August 29, 1903, states concerning the summer diarrhea of children that as to medicinal treatment of late years less and less importance is attached to drugs. Thorough emptying of the intestinal canal of all pathogenic bacteria, pabulum and irritants is the first indication. For this he gives the following prescription, as soon as the child is under observation, and after milk has been prohibited:

R Calomel,  
Sodium bicarbonate . . . . . 1 to 3 grs.  
Sugar of milk . . . . . 6 grs.

Mix and divide into 12 powders and give one every hour to a child one to five years old.

This is followed in three or four hours by one or two teaspoonfuls of castor oil. This purges the child pretty freely and relieves the straining and tenesmus. In many cases this is all that is needed, but should the stools continue to be frequent, bismuth subnitrate in ten-grain doses every hour or two is, he believes, the only reliable drug. Pain, tenesmus, and frequent stools, occasioning progressive

weakness and exhaustion, call for the use of opium. We must be careful with it, however, not forgetting that the intestinal tract is infected and requires drainage, five or six stools a day being necessary. Consequently, to reduce the number of stools below that, by the administration of opium, is doing our patient harm. For high temperature, baths at 90° F., gradually reduced to 80°, are indicated. Drug antipyretics should be avoided. High temperature, however, indicates absorption of poison, and this may call for elimination rather than for antipyretic measures. Should the stools be infrequent and foul smelling, calomel may again be indicated. —*Cleveland Med. Journal.*

**ANESTHESIA.**—A. Mayor (in *Presse Medicale*, Jan. 30, 1904, as quoted in *N.Y. Medical Journal*) says the mydriasis noted in ether anesthesia, as opposed to the myosis from chloroform, is due to asphyxia and the inhalation of saliva, which is also the cause of pneumonia, and is mistaken for a bronchial outpouring. A very small dose, three two-thousandths of a grain, of atropine sulphate, added to one-third of a grain of morphine hypodermically, the writer has found corrective. Chloroform should be administered at first greatly diluted; it kills by its action on the heart, and direct massage of the latter seems to be the only possible remedy.

#### THE ACTION OF ARSENIC ON BONE MARROW.

—Stockman and Charteris (*British Medical Journal*, and *Charlotte Medical Journal*) report researches on the changes in bone marrow of animals and man under the action of arsenic. Under small doses, in rabbits and dogs occurs hyperemic atrophy of fat cells, decrease in number or degeneration of giant cells, increase of leucoblastic cells, and little or no increase of erythroblastic cells. These changes are essentially similar to those produced under the action of many other foreign or poisonous substances, and constitute a reaction against these substances on the

part of the marrow. The counting of blood cells and estimation of hemoglobin also support the view that arsenic does cause an increase in the number or quality of red cells. The changes in human marrow in cases of chronic arsenical poisoning were found to be essentially of the same character—leucoblastic, and not erythroblastic, with diminution in fat cells. The researches show that arsenic has no direct effect in increasing the production of red cells by the marrow. Its favorable influence in pernicious anemia, malaria, lympho-adenoma, leukemia, and some other diseases probably results from its effect on the parasites which cause these diseases, and not from any direct action on the blood formation.

THE RELATIONS EXISTING BETWEEN RESPIRATORY AND INTRA-PELVIC DISEASES.—Craig (*British Medical and Surgical Journal* and *Charlotte Medical Journal*) says that his attention was first called to the relation existing between respiratory and intra-pelvic diseases by the fact that cases under treatment were invariably made worse by the acquiring of a cough or some respiratory disease. This was especially true in ovarian prolapse. By care he found the two conditions existing together too often for a mere coincidence. The congenital ovarian prolapses, he says, can be traced to violent coughing, as whooping-cough, no symptoms manifesting themselves till after maturation.

The congestion during menstruation in connection with a cough is harmful, and should be guarded against. The corset lessens the respiratory capacity and movements, and predisposes to pelvic troubles. By assuming the prone position, the disengagement of the pelvis is favored after coughing. Pelvic respiratory massage may be very beneficial in ovarian or pelvic involvement. This consists of having the patient assume the genu-pectoral or knee-elbow position and asperate the pelvic vessels by slow force-expiration about fourteen times a minute.

CORYZA.—Dr. Genglaire, of Coucy-le-château, writes to *Médecine moderne*, for January 6, 1904, to the effect that he has found of value the practice of painting the nasal fossæ with a pencil of absorbent cotton steeped in hydrogen peroxide five or six times daily. He states that a cure generally results within the twenty-four hours.—*N. Y. Med. Journal*.

SYRUP OF THE IODIDE OF IRON.—Hodge (*Lancet-Clinic*) says:

1. In the early stages of phthisis, given in one dram doses three times daily, it promotes secretion, acts as a diuretic slightly, and the weight of the patient increases.

2. In dry, rasping coughs of bronchitis it will soon relieve the congestion and increase the expectoration after the ordinary cough syrups have failed.

3. In amenorrhea and dysmenorrhea, in scrofulous women especially, it is of special benefit, the menstrual flow often being properly regulated. The dose in such cases should range from twenty to thirty drops after each meal.

4. In anemic individuals suffering from chronic rheumatic gout it is of service, given in doses of one dram, combined with cod-liver oil.

5. In constitutional syphilis it is a valuable remedy.

6. In children with a strumous diathesis, enlarged cervical glands, associated with catarrhal conditions of the throat, and enlarged tonsils, it should be given, administered in ten-drop doses three times a day. It produces marked alterative effect, hastening absorption and reducing the swollen glands, and at the same time increasing the hemoglobin.

7. In cases of delayed resolution following croupous pneumonia it is a splendid reconstructive and tonic.

8. In the incontinence of urine in children it serves a good purpose given in twenty or thirty-drop doses in water after meals.—*Charlotte Med. Journal*.



## Therapeutic Notes.

CARDIAC ADYNAMIA IN INFECTIOUS DISEASES OF CHILDREN.—*Nouveaux Remèdes* for June 24, 1904, recommends:

R Sparteine sulphate ..... 10  
Distilled water ..... 25.0  
Syrup of bitter orange peel ..... 20.0

M. For a child three years of age, 2 coffee-spoonfuls daily; five years, 5 coffee-spoonfuls; ten years, 10 coffee-spoonfuls daily.

—*Med. Journal.*

OTALGIA.—*Nouveaux Remèdes* for Jan. 8, 1904, gives Moure's prescription:

R Atropine sulphate,  
Morphine hydrochloride .....  $\frac{3}{4}$  gr.  
Glycerin .....  $\frac{1}{2}$  oz.

M. One or two drops in the ear, morning and evening.

—*N. Y. Med. Journal.*

FOR MUSCULAR CRAMPS.—The *Journal de Médecine de Paris* for January 3, 1904, recommends friction of the cramped muscles with the following liniment:

R Sydenham's laudanum,  
Chloroform, } equal parts.  
Oil of hyoscyamus,

M. —*N. Y. Med. Journal.*

BILIARY LITHIASIS.—Kraus, in *Journal de Médecine de Paris* for August 23, 1903, (*New York Med. Journal*) recommends:

R Calomel .....  $7\frac{1}{2}$  grs.  
Podophyllin,  
Euonymin, .....  $\text{ââ } 3\frac{3}{4}$  grs.  
Extract of belladonna .....  $2\frac{1}{4}$  grs.  
Licorice powder,  
enough to make 10 pills.

M. One pill at night.

LEUCORRHEA.—*Nouveaux Remèdes* for December 24, 1903, gives Lutaud's prescription:

R Creolin ..... 2.0 gms.  
Ext. of hydrast. canad. .... 10.0 gms.  
Water ..... 200.0 gms.

M. Two tablespoonfuls in a pint of tepid water for an injection.

For gonorrhea in the male combine as follows:

R Ext. of hydrast. canad. .... 2.0 gms.  
Creolin ..... 10.0 gms.  
Water ..... 250.0 gms.

M. Use undiluted. —*N. Y. Med. Journal.*

A CARMINATIVE ENEMA.—Martinet, according to *Journal de Médecine de Paris* for January 17, 1904, prescribes:

R Tincture of assafetida .... 5.0 gms.  
Anise water ..... 50.0 gms.  
Decoct. of marshmallow ..... 100.0 gms.

M. For one dose. —*N. Y. Med. Journal.*

CAMPHOR AS AN ANESTHETIC.—*Journal de Médecine Interne* for January 15, 1904, ascribes to M. Leredde the following formulæ for the use of camphor as an anesthetic for local use in itching affections:

I. R Camphor ..... 1 gm.  
Oil of sweet almonds ..... 10 gms.

M.

II. R Lanolin ..... 90 gms.  
Camphorated oil ..... 10 gms.  
Chloral hydrate ..... 1 gm.

M.

III. R Zinc oxide,  
Chalk,  
Camphorated oil,  
Lime water .....  $\text{ââ } 25$  gms.

M.

—*N. Y. Med. Journal.*

SUBACUTE GOUT.—Luff, in *The Practitioner* for July, 1903, (*N. Y. Med. Journal*) suggests the following pill:

R Colchicine .....  $\frac{1}{60}$  gr.  
Extract of nux vomica .....  $\frac{1}{4}$  gr.  
Extract of gentian ..... 1 gr.

M. For one pill; take three daily.

A GALACTOGENOUS SYRUP.—*Revue française de Médecine et de Chirurgie* for Dec. 14, 1903, gives Marfan's formula:

R Aqueous extract of galega,  
Calcium chlorhydrophosphate,  
Tincture of fennel .....  $\text{ââ } 10$  gms.  
Oil of cumin ..... 15 drops.  
Simple syrup ..... 400 gms.

M. Four tablespoonfuls daily.

—*Med. Journal.*

VAGINITIS.—*Revue française de Médecine et de Chirurgie* for January 18, 1904, quotes from *Bulletin thérapeutique*:

R Salol ..... 3 to 8 gms.  
Glycerin ..... 250 gms.

M. Use every second day a tampon soaked in the preceding.

Another prescription is:

R Acetanilid ..... 1.0  
Tannic acid ..... .5  
Extract of golden seal ..... .25  
Sugar of milk ..... 10.0

M. For one suppository; smear with petrolatum before using. —*N. Y. Med. Journal.*

